

CALIFORNIA COASTAL COMMISSION

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W9a

Consistency determination number:	CD-021-03
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CCC objection:	11/7/2003
Staff:	D. Carl
Staff report prepared:	12/18/2003
Hearing date:	1/14/2004
Hearing item number:	W9a

FEDERAL CONSISTENCY DETERMINATION – PROPOSED FINDINGS

Federal agency..... **United States Army Corps of Engineers (Local Project Sponsor: Santa Cruz County Redevelopment Agency)**

Project location Bluff and beach area fronting East Cliff Drive between 32nd and 36th Avenues in the Pleasure Point portion of the Live Oak beach area of Santa Cruz County.

Project description Construction of full-bluff (extending from the beach/Monterey Bay to East Cliff Drive above) 1,100 linear foot sculpted concrete seawall, construction of one new and one replacement public access stairway, demolition of an abandoned restroom, removal of concrete rubble previously placed on the beach, and relocation of rip-rap boulders.

File documents..... Santa Cruz County certified Local Coastal Program (LCP); California Coastal Commission Monterey Bay ReCAP.

Commissioners

on prevailing side: **Curtis, Desser, Hart, Iseman, Nava, Peters, Potter, Reilly, Wan, & Wooley**

Staff Note: The Coastal Commission objected to the U.S. Army Corps of Engineers (ACOE) consistency determination after public hearing on November 7, 2003 by a vote of 10-0. At that time, the Commission determined that the proposed seawall project was not fully consistent with the enforceable policies of the California Coastal Management Program (CCMP). The Commission determined that the Corps had not provided adequate information, had not fully explored all feasible less environmentally damaging feasible alternatives, and had not fully addressed applicable coastal resource issues (including the protection of offshore surfing resources and shoreline sand supply, and whether shoreline-altering armoring was necessary). This staff report presents findings that support the Commission's November 7, 2003 action. For the benefit of interested parties, the issue before the Commission at the January 14, 2004 hearing is not whether to object or concur on the consistency determination (the Commission has already objected), but rather, to adopt findings that the prevailing Commissioners deem to accurately reflect their reasons for the objection.



California Coastal Commission

January 2004 Meeting in Laguna Beach

Staff: D. Carl Approved by:

CD-021-03 Pleasure Point seawall stfrpt 1.14.2004.doc

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1. Report Summary

Proposed Project

ACOE proposes to construct an 1,100 linear foot sculpted concrete seawall fronting the bluff seaward of East Cliff Drive in the Pleasure Point portion of the Live Oak beach area of Santa Cruz County (Pleasure Point seawall). The project includes the removal of an existing stairway and a non-functional restroom on the bluffs, construction of two integral (to the seawall) public access stairways, removal of concrete rubble previously placed on the beach, and partial removal and partial relocation of rip-rap boulders (to the downcoast end of the seawall). The seawall is meant to protect East Cliff Drive (including preservation of the vehicular travel lane as well as the pedestrian/bicyclist recreational trail area) and the public utilities embedded below it. This section of East Cliff Drive is a very popular recreational use area that attracts a significant number of users. The seawall is functionally related to Santa Cruz County's proposal to subsequently reconstruct the East Cliff Drive right-of-way with an improved recreational trail and other related amenities (East Cliff Drive Parkway). The Santa Cruz County Redevelopment Agency is the local project sponsor for the ACOE seawall proposal as well as the applicant for the Parkway. These future Parkway improvements are not an ACOE project and are not a part of the consistency determination before the Commission. Likewise, although ACOE has evaluated constructing another smaller seawall downcoast at the intersection of East Cliff Drive with 41st Avenue (at the "Hook") that is also related to the County's Parkway project, the Hook seawall is not before the Commission at this time.

Incomplete Threat Evaluation

Portions of East Cliff Drive already have been impacted by coastal erosion, resulting in some areas of pavement being undermined and falling to the beach below, and the vehicle lane being reduced to one-way travel. Thus, it is clear that the paved road area, which physically is split (by bollards) into a recreational trail area (nearest the bluff edge) and a vehicular travel lane, is currently endangered in certain locations. In addition, from the plans submitted, utilities beneath the road appear to be, in places, within 11 feet of the blufftop edge at the closest. The long-term average bluff retreat rate has been estimated to be approximately 1 foot per year, and discrete episodic erosion events have been estimated to result in up to 10 feet of bluff loss at a time.

Unfortunately, however, the underlying threat evaluation and the submitted project plans have not been fully developed in a manner designed to more precisely define the degree of threat within the project area. Missing is a more precise evaluation showing more specifically what portions of what structures are in danger and to what degree. This evaluation is critical for understanding the basis of the threat, and the range of appropriate responses to it. It is insufficient to rely solely upon the estimated long-term bluff erosion rate of 1 foot per year for this purpose, as this rate is a long-term average and not well-suited to estimate erosion over short time intervals due to the episodic nature of coastal erosion, in general, and at this site in particular. Rather, this erosion rate figure must be understood in relation to the geologic structure and configuration of the bluff, and the potential for failure of portions of the bluff in episodic events as well as more steadily over the long term. Episodic erosion and the degree to which structures may be at risk are best understood by evaluating the largest potential episodic bluff failure



events, the likelihood of such events, and the proximity of structures to areas likely to experience such events. Information on past episodic bluff failure events in the project area, including locations of same and the nature/size of the bluff loss, has likewise not been documented (although ACOE references up to 10 feet of bluff loss, this event is not documented nor is it known where it occurred – or could occur in the future – within the project area, and why). A quantitative slope stability analysis has not been provided that describes threat in terms of bluff stability, potential failure planes, and minimum factors of safety. Thus, while the Commission's geologist has evaluated the project and the project's underlying threat evaluation, and can conclude that some portions of the existing structures are "in danger" as that term is understood in a Coastal Act context, the lack of better spatial and temporal information in the threat evaluation make this an oversimplification for the larger project area as a whole, and insufficient for project review given the types of impacts expected from the proposed seawall.

Lack of Alternatives Analysis

The types of negative resource impacts, such as the loss of beach and viewshed degradation, due to armoring are well known to the Commission. In this case these types of impacts are magnified due to the fact that the seawall is located in an extremely important recreational use area, with a world-renowned surfing area located directly offshore (i.e., "Pleasure Point"). In part due to the sensitivity of the site, and the negative impacts expected from the project, the Commission expected that ACOE would thoroughly evaluate non-armoring alternatives including: (a) evaluation of a planned retreat strategy for this section of coast; (b) regional beach nourishment programs, including potential corrective measures to improve the transport of sand around the Santa Cruz Harbor jetties, and potential modifications to the jetties themselves; (c) enhanced management of blufftop terrace deposits through vegetation and drainage controls and relocation of threatened structures to the inland extent of right-of-way, with pathway improvements installed along the inland extent of right-of-way, and road prism reduced in width to the extent feasible and either relocated as far inland as possible or removed in its entirety (i.e., closed to through traffic); and (d) combinations and permutations of all of these. In addition to the non-armoring alternatives alone, the Commission also expected an evaluation of a permutation of such alternatives where, if there was a small portion of the project area where a significant near term threat could not be abated by the non-armoring measures alone, then a minimal amount of armoring (e.g., minor sea cave fill, stepped upper bluff retaining wall, etc.) would be considered and made part of the alternative. For example, should a relocation alternative provide substantial protection from erosion over almost all of the project area, but there are two critical areas where gullies and sea caves have formed that could threaten portions of the relocated structures in the shorter term, then the effect of adding a minor sea cave plug and/or backfilled retaining wall at the gully would also be evaluated. The intent would be to augment non-armoring alternatives, as necessary, with extremely minor, and pin-pointed armoring to be able to evaluate the degree to which such minimal armoring measures could increase the feasibility and degree of protection provided by the alternative.

In its final Environmental Impact Statement (EIS) and related consistency determination materials, and thus in its final consistency determination (because the final EIS is incorporated by reference), ACOE did not thoroughly evaluate such project alternatives, making it more difficult to completely evaluate non-armoring alternatives to address the danger from erosion at the East Cliff Drive project area.



The Commission believes that there may be alternatives, or more appropriately a combination of alternatives, that could help to lessen the short-run danger to existing structures at this location without shoreline armoring. These include such relatively minor actions as installing better drainage control structures and planting vegetation on exposed bluff soils, and more major actions such as immediate relocation of portions of the road and the underlying utilities. Without a clear and more fully developed threat evaluation, without clear project plans that show the proposed project and alternatives in relation to existing site conditions, and without a thorough alternatives analysis, though, it is not clear to what degree such alternatives would be able to increase the effective life of the setback established, protect the endangered portions of structures, protect significant on and offshore coastal resources, and ultimately be approvable under the CCMP. Given the way the project is segmented, and lacking information on overall project costs and funding (and/or mandates associated with funding), it is also not clear to what degree these projects would fall under the scope of ACOE's authorities and funding, could or should be combined in some way with the County's blufftop project, and/or could otherwise come to fruition. It may also be that regional programs to promote beach formation (through beach nourishment, sand bypass/corrective measures at the Harbor, etc.) could reduce both the rate of erosion and the need for armoring. However, thorough information has not been developed on these measures (and permutations of them) and there remains a certain amount of uncertainty in the evaluation of these options.

Blufftop versus Beach/Surfing Trade-off

There are clearly significant blufftop recreational resources atop the bluff in the East Cliff Drive right-of-way. It is also clear conceptually that "buying time" through the use of soft alternatives to increase the effective life of the setback also means that this recreational area would be correspondingly reduced in size as the bluff continues to erode. In addition, at some point, assuming current California law regarding existing structures, and lacking a substantial social and financial commitment to planned retreat, armoring would be installed to protect the row of houses directly inland of East Cliff Drive. To the extent that space still existed in the right-of-way seaward of these houses, there would still be some through recreational access, but its value would be diminished because the amount of space would be significantly less. The larger the right-of-way, the more space available to accommodate public recreational enhancements such as trails, overlooks, benches, picnic areas, restrooms, et cetera. The amount of space, and the stability of it over the long-term, is also directly related to the amount of improvements that may be pursued for it. That said, ACOE did not thoroughly evaluate the way a range of alternatives would affect the blufftop recreational resource over time.

Just as clearly, and as with all armoring that "fixes" the bluff location on an eroding shoreline where sea level continues to rise, it is expected that the proposed seawall would eventually result in the loss of the beach and offshore surfing area. It is unknown how long this process would take (and ACOE did not evaluate such long-term impact). Sea level rose approximately one foot over the past one hundred years in the Monterey Bay area, and some experts estimate that it could rise three feet or more in the next one hundred years. At those rates, or at higher rate (that could result from global warming), the beach area would disappear relatively quickly (as it is not very large to begin with), but the length of time until the surf break would be impacted is less clear. As seen with daily tidal fluctuations, a foot or two difference



in sea level can have a tremendous impact on surfing wave quality. The surf may disappear within a hundred years, or it may be longer, or it may be shorter. Again, ACOE did not clearly evaluate these long-term surfing and beach impacts, making it difficult to understand the effect of the project on these public resources, and ways that such impacts could be reduced, monitored, and (where unavoidable) mitigated over the long term.

Other Issues

In addition, the seawall proposed raises other resource impacts and questions that are not thoroughly addressed in the consistency determination and that make it difficult to evaluate the project for CCMP consistency even if, after a comparison of alternatives, a seawall of some sort were determined to be otherwise appropriate. For example, the seawall would reduce and otherwise change the supply of sand in the shoreline system. The project does not, however, include mitigation for this impact as required by the CCMP, nor feasible ways of addressing the impact at this site or within the larger Live Oak beach area (or the larger Santa Cruz littoral cell). The Commission notes that if a seawall were to be found consistent with the CCMP at this location, it would, at a minimum, need to mitigate its sand supply impact, preferably in a programmatic way aimed at the larger shoreline sand supply system of which the project site is a part. The seawall would also need to be reduced in height, stripped of rip-rap (if feasible), camouflaged appropriately (including hiding drainage and railings), and developed with complementary measures to filter and treat runoff prior to its discharge seaward of the seawall. There would also need to be an enforceable component of the project that required the corresponding East Cliff Drive Parkway improvements to be constructed if these subsequent improvements are to be used as mitigation for project impacts.

Finally, the assessment of the cumulative impact of this project in relation to existing armoring in Pleasure Point the Live Oak beach area is insufficient. Although it continues to provide significant public recreational access opportunities, including the Pleasure Point surfing area offshore, the Live Oak beach project area and its surroundings have been negatively impacted by armoring over the years, much of it with a pedigree pre-dating the coastal permitting requirements of Proposition 20 (the Coastal Initiative) and the Coastal Act. The proposed seawall would be the largest seawall project ever contemplated for this area, and its cumulative impact in this regard needs to be better defined, and appropriate mitigations applied to address any cumulative impacts (of the type of impacts noted above or otherwise).

Conclusion

The Commission is unwilling to make a decision on a seawall project of this magnitude without adequate information to be able to fully understand the project site in relation to the proposed project and potential alternatives. The lack of comprehensive threat evaluation and alternatives analysis makes it unclear to what degree various non-seawall alternatives may make less or more CCMP sense at this location. Any project eventually approved here needs to protect any endangered structures while also having the least impact on coastal resources, and commensurately mitigating any impacts that cannot be avoided.



Pleasure Point and the Live Oak beach area as a whole are important recreational assets for Live Oak residents, other County residents, and visitors to the area. The site includes a portion of the largest marine sanctuary in the nation, and a surfing resource of State and worldwide significance. This project area is clearly a very special place, with valuable and irreplaceable resource value. The proposed seawall represents a significant expenditure of public monies for a project that would change this area for the foreseeable future, and lead to significant long and short term negative coastal resource impacts. Good planning and public policy dictate that decisions not be made here without a clear and thorough assessment and presentation of available alternatives, and the degree to which each protects endangered structures and responds to other CCMP resource issues and impacts. Moreover, as a public project, it is incumbent upon the public agencies involved to fully explore these issues, and to also fully explore options for not just meeting CCMP minimum requirements, but rather going beyond them to enhance public recreational resources and improve the public good in the long term.

The Commission finds that ACOE's consistency determination lacks sufficient information to conclusively determine overall if the project is fully consistent to the maximum extent practicable with the CCMP, and finds that the project is not otherwise fully consistent to the maximum extent practicable with the enforceable policies of the CCMP because the information that has been submitted shows it to be inconsistent with the CCMP. The Commission objects to ACOE consistency determination number CD-021-03.

2. Army Corps of Engineers' Consistency Determination

ACOE Determination

ACOE (San Francisco District) determined that the proposed seawall project is consistent to the maximum extent practicable with the CCMP, and submitted this determination to the Commission, requesting the Commission's concurrence (see exhibit F).¹ Options available to the Commission are to either concur with ACOE's determination, conditionally concur with it, or object to it.²

Project Procedural History

The Commission has been tracking the Pleasure Point seawall project for many years, and Commission staff have provided directive comments on it (and its predecessors) through letters, meetings with the County and ACOE, and participation at community forums for almost a decade. These comments were first distilled in Notice of Preparation (NOP) comments in early 2001 (see exhibit I), at which time it was anticipated that the project would require a typical CDP process.³ Subsequently, Commission staff

¹ Note that ACOE's consistency determination incorporates by reference their environmental impact statement (EIS) and their detailed project report (DPR) for the project. The EIS and DPR are together about 2,000 pages of text and graphics, and are not reproduced here.

² In coastal development permit (CDP) review terms, "concurrence" is akin to approval, "conditional concurrence" is like approval with conditions, and "objection" is similar to denial of a CDP.

³ Note that the NOP was the first official opportunity to provide written feedback on the current seawall project. At that time, the project was not an ACOE project. Rather, it was a Santa Cruz County proposal and it was anticipated that it would proceed through normal CDP processes.



were informed that this would be an ACOE project subject to federal consistency regulations, and in late March 2003, ACOE submitted its consistency determination at the same time as the draft EIS/EIR was distributed for public review. Based upon the submittal date of March 13, 2003, the Commission was originally required to review ACOE's determination by May 17, 2003.

However, the Pleasure Point seawall presents complicated planning issues, and has been the subject of tremendous interest and controversy for years. At Commission staff request (see exhibit G), ACOE extended the deadline for the Commission to review this matter in order to allow for public comment on the draft EIS/EIR (and ACOE's responses) to be available for the Commission's deliberations.⁴ Commission staff again provided detailed comments on the draft EIS/EIR (see exhibit J). The final EIS/EIR was received by Commission staff on October 8, 2003. Despite requests that ACOE allow this matter to be scheduled for a December hearing to allow maximum public participation,⁵ and to allow Commission staff adequate time to review the roughly 1,500 page final EIS/EIR, the Corps declined to allow the matter to be scheduled for December.⁶

At the November 7, 2003 Commission hearing, the Commission objected to ACOE's consistency determination by a unanimous vote (10-0). At that time, the Commission determined that the proposed seawall project was not consistent with the enforceable policies of the California Coastal Management Program (CCMP). The Commission determined that the Corps had not provided adequate information, had not fully explored all feasible less environmentally damaging feasible alternatives, and had not fully addressed applicable coastal resource issues (including the protection of offshore surfing resources and shoreline sand supply, and whether shoreline-altering armoring was necessary). See notification of this action sent to ACOE on November 7, 2003 in exhibit M.

3. Standard of Review and Applicable Legal Authorities

Standard of Review

The standard of review for federal consistency determinations is Chapter 3 of the Coastal Act, and not the Local Coastal Program (LCP) for the affected area. If an LCP that the Commission has certified and incorporated into the CCMP provides development standards that are applicable to the project site, the LCP can provide guidance in applying Chapter 3 policies in light of local circumstances. If the Commission has not incorporated a certified LCP into the CCMP, it cannot guide the Commission's decision, but it can provide background information. In this case, the Commission has certified Santa Cruz County's LCP but has not incorporated it into the CCMP. Thus, to the extent relevant, the County's certified LCP can provide background context for the decision being made. However, Chapter

⁴ Otherwise, the Commission would have been forced to act on the consistency determination before any public comments on the DEIS/DEIR were received, reviewed, and/or addressed.

⁵ The Commission's December meeting was in San Francisco, which was as close to the Pleasure Point area as the Commission is scheduled to meet until March 2004 in Monterey.

⁶ Commission staff requested the matter be postponed multiple times, and, at the Corps' request, ultimately put the request in writing (see exhibit H). The Corps declined to grant the extension.



3 of the Coastal Act includes the actual enforceable CCMP policies applicable in this case.

CZMA Policies

Section 307 of the Coastal Zone Management Act (CZMA) provides in part:

(c)(1)(A) Each Federal agency activity within or outside the coastal zone that affects any land or water use or natural resource of the coastal zone shall be carried out in a manner which is consistent to the maximum extent practicable with the enforceable policies of approved State management programs.

Consistent to the Maximum Extent Practicable

Section 930.32 of the federal consistency regulations provides, in part, that:

(a)(1) The term “consistent to the maximum extent practicable” means fully consistent with the enforceable policies of management programs unless full consistency is prohibited by existing law applicable to the Federal agency.

The Commission recognizes that the standard for approval of federal projects is that the activity must be “consistent to the maximum extent practicable” (CZMA Section 307(c)(1)). This standard allows a federal activity that is not fully consistent with the CCMP to proceed, if compliance with the CCMP is “prohibited [by] existing Federal law applicable to the Federal agency's operations.”⁷ The Army Corps of Engineers did not provide any documentation to support a maximum extent practicable argument in its consistency determination or in any subsequent documents. Therefore, there is no basis to conclude that existing law applicable to the Federal agency prohibits full consistency.

4. Commission Objection (November 7, 2003)

On November 7, 2003, the Commission defeated a motion to concur with ACOE's consistency determination and in doing so adopted the following resolution:

Objection. The Commission hereby objects to consistency determination CD-021-03 finding that the consistency determination is not fully consistent to the maximum extent practicable with the enforceable policies of the California Coastal Management Program and does not contain enough information to determine if the project described therein is fully consistent to the maximum extent practicable with the enforceable policies of the California Coastal Management Program.

CZMA regulations preclude the ACOE from proceeding with its seawall proposal despite the Commission's objection to the consistency determination unless the ACOE determines that such an undertaking is fully consistent with the CCMP. Specifically, Section 930.43(d) provides, in part that:

⁷ 15 CFR Section 930.32.



... Federal agency shall not proceed with the activity over a State agency's objection unless: ... (2) the Federal agency has concluded that its proposed action is fully consistent with the enforceable policies of the management program, though the State agency objects.⁸

In addition, if ACOE were to decide to proceed with the project despite the Commission's objection, then Section 930.43(e) of the CZMA regulations requires ACOE to inform the Commission of such a decision. This section provides, in part, that:

If a Federal agency decides to proceed with a Federal agency activity that is objected to by a State agency ... the Federal agency shall notify the State agency of its decision to proceed before the project commences.⁹

As of the date of this staff report, the Commission has not been informed by ACOE of any intention to proceed with the seawall project despite the Commission's objection.

5. Staff Recommendation on Proposed Findings

Staff recommends that the Commission pass the following motion in support of its November 7, 2003 action:

Motion. I move that the Commission adopt the revised findings in support of the Commission's action on November 7, 2003 concerning consistency determination number CD-021-03.

Staff Recommendation of Approval. Staff recommends a **yes** vote on this motion. Passage of this motion will result in the adoption of revised findings as set forth in this staff report and in adoption of the resolution set forth below. The motion requires a majority vote of the Commissioners from the prevailing side present at the November 7, 2003 hearing, with at least three of the prevailing Commissioners voting.¹⁰ If the motion fails, the revised findings are postponed to a later meeting. Commissioners eligible to vote on the revised findings are Commissioners Curtis, Hart, Iseman, Nava, Peters, Potter, Reilly, Wan, and Wooley.¹¹

Resolution To Adopt Revised Findings. The Commission hereby adopts the findings set forth below for its objection to United States Army Corps of Engineer's consistency determination number CD-021-03, on the ground that the findings support the Commission's decision made on November 7, 2003, and accurately reflect the reasons for it.

⁸ 15 CFR Section 930.43(d).

⁹ 15 CFR § 930.43(e).

¹⁰ Coastal Act Section 30315.1.

¹¹ Note that Commissioner Desser was also on the prevailing side at the November 7, 2003 hearing on this item (as noted on the cover page of this report). Because Ms. Desser is no longer a Commissioner, she is not listed here.



6. Requirements On A State Agency When It Objects

Applicable Policies

Section 930.43(a) of the federal consistency regulations requires that, if the Commission's objection is based on a finding that the proposed activity is inconsistent with the CCMP, the Commission must identify measures, if they exist, that would bring the project into conformance with the CCMP. That section states that:

In the event the State agency disagrees with the Federal agency's consistency determination, the State agency shall accompany its response to the Federal agency with its reasons for the disagreement and supporting information. The State agency response must describe (1) how the proposed activity will be inconsistent with specific elements of the management program, and (2) alternative measures (if they exist) which, if adopted by the Federal agency, would allow the activity to proceed in a manner consistent to the maximum extent practicable with the management program.

In addition, Section 930.43(b) of the federal consistency regulations requires that, if the Commission's objection is based on a lack of information, the Commission must identify the information necessary for it to assess the project for consistency with the CCMP. That section states that:

If the State agency's objection is based upon a finding that the Federal agency has failed to supply sufficient information, the State agency's response must describe the nature of the information requested and the necessity of having such information to determine the consistency of the Federal activity with the enforceable policies of the management program.

As described in the findings that follow, the Commission finds that ACOE's consistency determination lacks sufficient information to conclusively determine overall if the project is fully consistent to the maximum extent practicable with the CCMP, and finds that the project is not otherwise fully consistent to the maximum extent practicable with the enforceable policies of the CCMP because the information that has been submitted shows it to be inconsistent with the CCMP.

CCMP Policies With Which The Proposed Project Is Inconsistent

Pursuant to part 1 of Section 930.43(a) above, the findings that follow describe how the project is inconsistent with specific enforceable policies of the CCMP. Those findings are incorporated herein by reference. In sum, the project is inconsistent with Coastal Act Sections 30210, 30211, 30213, 30220, 30221, 30223, 30230, 30231, 30233(a), 30235, 30240, 30250(a), 30251, and 30253(5) for the reasons detailed in the findings that follow.

Lack of Modifications to Proposed Project Available

Pursuant to part 2 of Section 930.43(a) above, the Commission cannot prescribe the alternative measures



that would allow the activity to proceed in a manner fully consistent to the maximum extent practicable with the CCMP because the consistency determination lacked adequate information with which to analyze the project, or variations and alternatives to it, for full CCMP consistency (see also below). That said, the Commission notes that, based on the information that was submitted, there appear to be a series of measures that the Corps could implement to cure some of the identified project inconsistencies to the extent a seawall were to be found consistent with the CCMP in the future (e.g., if a new consistency determination were to be submitted with the supplementary information necessary for the Commission to be able to evaluate such a project for consistency with the CCMP as discussed below, and if the Commission were then to otherwise find a project consistent with the CCMP). In that case, the Commission notes that if a seawall were to be found consistent with the CCMP at this location, there are certain modifications that would appear to be necessary to cure identified inconsistencies specific to a seawall. These include, but are not limited to, reducing the height of the seawall, removing rip-rap from the project, camouflaging the wall and related structures (including hiding drainage and railings), and filtering and treating runoff prior to its discharge seaward of the seawall.¹² There would also need to be an enforceable component of the project that required the corresponding East Cliff Drive Parkway improvements to be constructed if these subsequent improvements are to be used as mitigation for project impacts.

Lack of Information

Pursuant to Section 930.43(b) above, there are specific items of information that would be necessary to evaluate the proposed project if a new consistency determination were to be submitted. These are listed specifically in exhibit O,¹³ discussed in the findings that follow, and summarized as follows:

Threat Evaluation

The underlying threat evaluation and the submitted project plans have not been fully developed in a manner designed to more precisely define the degree of threat within the project area. Missing is a more precise evaluation showing more specifically what portions of what structures are in danger and to what degree. This evaluation is critical for understanding the basis of the threat, and the range of appropriate responses to it. It is insufficient to rely solely upon the estimated long-term bluff erosion rate of 1 foot per year for this purpose, as this rate is a long-term average and not well-suited to estimate erosion over short time intervals due to the episodic nature of coastal erosion, in general, and at this site in particular. Rather, this erosion rate figure must be understood in relation to the geologic structure and configuration of the bluff, and the potential for failure of portions of the bluff in episodic events as well as more steadily over the long term. Episodic erosion and the degree to which structures may be at risk are best understood by evaluating the largest potential episodic bluff failure events, the likelihood of such events, and the proximity of structures to areas likely to experience such events. Information on past episodic bluff failure events in the project area, including locations of same and the nature/size of the

¹² Note that some of these things translate more clearly into information requirements, including questions of the feasibility of various seawall design permutations, and are thus also listed with the information requirements. See also exhibit O.

¹³ Note that this list of additional information was first provided to ACOE on December 8, 2003 (see December 8, 2003 cover letter in exhibit N).



bluff loss, has likewise not been documented (although ACOE references up to 10 feet of bluff loss, this event is not documented nor is it known where it occurred – or could occur in the future – within the project area, and why). A quantitative slope stability analysis has not been provided that describes threat in terms of bluff stability, potential failure planes, and minimum factors of safety. Thus, while the Commission's geologist has evaluated the project and the project's underlying threat evaluation, and can conclude that some portions of the existing structures are "in danger" as that term is understood in a Coastal Act context, the lack of better spatial and temporal information in the threat evaluation make this an oversimplification for the larger project area as a whole, and insufficient for project review given the types of impacts expected from the proposed seawall.

Alternatives Analysis

The types of negative resource impacts, such as the loss of beach and viewshed degradation, due to armoring are well known to the Commission. In this case these types of impacts are magnified due to the fact that the seawall is located in an extremely important recreational use area, with a world-renowned surfing area located directly offshore (i.e., "Pleasure Point"). In part due to the sensitivity of the site, and the negative impacts expected from the project, the Commission expected that ACOE would thoroughly evaluate non-armoring alternatives including: (a) evaluation of a planned retreat strategy for this section of coast; (b) regional beach nourishment programs, including potential corrective measures to improve the transport of sand around the Santa Cruz Harbor jetties, and potential modifications to the jetties themselves; (c) enhanced management of blufftop terrace deposits through vegetation and drainage controls and relocation of threatened structures to the inland extent of right-of-way, with pathway improvements installed along the inland extent of right-of-way, and road prism reduced in width to the extent feasible and either relocated as far inland as possible or removed in its entirety (i.e., closed to through traffic); and (d) combinations and permutations of all of these. In addition to the non-armoring alternatives alone, the Commission also expected an evaluation of a permutation of such alternatives where, if there was a small portion of the project area where a significant near term threat could not be abated by the non-armoring measures alone, then a minimal amount of armoring (e.g., minor sea cave fill, stepped upper bluff retaining wall, etc.) would be considered and made part of the alternative. For example, should a relocation alternative provide substantial protection from erosion over almost all of the project area, but there are two critical areas where gullies and sea caves have formed that could threaten portions of the relocated structures in the shorter term, then the effect of adding a minor sea cave plug and/or backfilled retaining wall at the gully would also be evaluated. The intent would be to augment non-armoring alternatives, as necessary, with extremely minor, and pin-pointed armoring to be able to evaluate the degree to which such minimal armoring measures could increase the feasibility and degree of protection provided by the alternative.

In its final EIS and related consistency determination materials, and thus in its final consistency determination (because the final EIS is incorporated by reference), ACOE did not thoroughly evaluate such project alternatives, making it more difficult to completely evaluate non-armoring alternatives to address the danger from erosion at the East Cliff Drive project area.

The Commission believes that there may be alternatives, or more appropriately a combination of



alternatives, that could help to lessen the short-run danger to existing structures at this location without shoreline armoring. These include such relatively minor actions such as installing better drainage control structures and planting vegetation on exposed bluff soils, and more major actions such as immediate relocation of portions of the road and the underlying utilities. Without a clear and more fully developed threat evaluation, without clear project plans that show the proposed project and alternatives in relation to existing site conditions and degree of threat, and without a thorough alternatives analysis, though, it is not clear to what degree such alternatives would be able to increase the effective life of the setback established, protect the endangered portions of structures, protect significant on and offshore coastal resources, and ultimately be approvable under the CCMP. Given the way the project is segmented, and lacking information on overall project costs and funding (and/or mandates associated with funding), it is also not clear to what degree these projects would fall under the scope of ACOE's authorities and funding, could or should be combined in some way with the County's blufftop project, and/or could otherwise come to fruition. It may also be that regional programs to promote beach formation (through beach nourishment, sand bypass/corrective measures at the Harbor, etc.) could reduce both the rate of erosion and the need for armoring. However, thorough information has not been developed on these measures (and permutations of them) and there remains a certain amount of uncertainty in the evaluation of these options.

Plans

The plans submitted lack sufficient detail on the project and hamper CCMP evaluation as a result. This is partly the case because the threat evaluation and alternatives analyses were incomplete (as described above) and thus not translated into plan sheets, and partly because the submitted plans lacked the typical types of detail needed to evaluate seawall projects (including existing structures in the project area, property lines, topography and other geologic conditions, representative cross sections, alternatives, erosion expected over certain times or in certain areas, scale in feet, graphic scale on reduced copies, etc. – see details in exhibit O).

Other Information Issues

There are clearly significant blufftop recreational resources atop the bluff in the East Cliff Drive right-of-way. It is also clear conceptually that “buying time” through the use of soft alternatives to increase the effective life of the setback also means that this recreational area will be correspondingly reduced in size as the bluff continues to erode. In addition, at some point, assuming current California law regarding existing structures, and lacking a substantial social and financial commitment to planned retreat, armoring would be installed to protect the row of houses directly inland of East Cliff Drive. To the extent that space still existed in the right-of-way seaward of these houses, there would still be some through recreational access, but its value would be diminished because the amount of space would be significantly less. The larger the right-of-way, the more space available for public recreational enhancements such as trails, overlooks, benches, picnic areas, restrooms, et cetera. The amount of space, and the stability of it over the long-term, is also directly related to the amount of improvements that may be pursued for it. ACOE did not thoroughly evaluate the way a range of alternatives would effect the blufftop recreational resource over time.



Just as clearly, and as with all armoring that “fixes” the bluff location on an eroding shoreline where sea level continues to rise, it is expected that the proposed seawall will eventually result in the loss of the beach and offshore surfing area. It is unknown how long this process will take (and ACOE did not evaluate such long-term impact). Sea level rose approximately one foot over the past one hundred years in the Monterey Bay area, and some experts estimate that it could rise three feet or more in the next one hundred years. At those rates, or at a higher rate (that could result from global warming), the beach area would disappear relatively quickly (as it is not very large to begin with), but the length of time until the surf break would be impacted is less clear. As seen with daily tidal fluctuations, a foot or two difference in sea level can have a tremendous impact on surfing wave quality. The surfing resource may disappear within a hundred years, or it may be longer, or it may be shorter. Again, ACOE did not clearly evaluate these long-term surfing and beach impacts, making it difficult to understand the effect of the project on these public resources, and ways that such impacts could be reduced, monitored, and (where unavoidable) mitigated over the long-term.

In addition, the seawall proposed raises other resource impacts and questions that are not thoroughly addressed in the consistency determination and that make it difficult to evaluate the project for full CCMP consistency even if, after a comparison of alternatives, a seawall of some sort it were determined to be otherwise appropriate. For example, the seawall would reduce and otherwise change the supply of sand in the shoreline system. The project does not, however, include mitigation for this impact as required by the CCMP, nor feasible ways of addressing the impact at this site or within the larger Live Oak beach area (or the larger Santa Cruz littoral cell).

Finally, the assessment of the cumulative impact of this project in relation to existing armoring in Pleasure Point the Live Oak beach area is insufficient. Although it continues to provide significant public recreational access opportunities, including the Pleasure Point surfing area offshore, the Live Oak beach project area and its surroundings have been negatively impacted by armoring over the years, much of it with a pedigree pre-dating the coastal permitting requirements of Proposition 20 (the Coastal Initiative) and the Coastal Act. The proposed seawall would be the largest seawall project ever contemplated for this area, and its cumulative impact in this regard needs to be better defined, and appropriate mitigations applied to address any cumulative impacts (of the type of impacts noted above or otherwise).

Conclusion

If the Corps intends to continue to pursue a project at this location through submittal of a new consistency determination, then the Corps will need to make project modifications and will need to include additional information in that consistency determination. Those project modifications and information needs are more specifically detailed in the findings that follow and are listed in some detail in exhibit O. The Corps should review both the findings that follow and exhibit O together to ensure that any new consistency determination includes all project modifications and information necessary for the Commission to be able to review it for full consistency to the maximum extent practicable with the CCMP.



Findings and Declarations

The Commission finds and declares as follows:

7. Project Location

The proposed project is located on the bluff and beach area fronting East Cliff Drive between 32nd and 36th Avenues in the Pleasure Point portion of the unincorporated Live Oak beach area of Santa Cruz County.

Santa Cruz County Regional Setting

Santa Cruz County is located on California's central coast and is bordered to the north and south by San Mateo and Monterey Counties (see exhibit A). The County's shoreline includes the northern half of the Monterey Bay and the rugged north coast extending to San Mateo County along the Pacific Ocean. The County's coastal zone resources are varied and oftentimes spectacular, including the Santa Cruz Mountains coastal range and its vast forests and streams; an eclectic collection of shoreline environments ranging from craggy outcrops to vast sandy beaches (in both urban and more rural locations); numerous coastal wetland, lagoon and slough systems; habitats for an amazing variety and number of endangered species; water and shore oriented recreational and commercial pursuits, including world class skimboarding, bodysurfing, and surfing areas; internationally renowned marine research facilities and programs; special coastal communities; vast State Park lands; and the Monterey Bay itself. The unique grandeur of the region and its national significance was formally recognized in 1992 when the area offshore of the County became part of the Monterey Bay National Marine Sanctuary (MBNMS), the largest of the 12 such federally protected marine sanctuaries in the nation.

Santa Cruz County's rugged mountain and coastal setting, its generally mild climate, and its well-honed cultural identity combine to make the area a desirable place to both live and visit. As a result, the County has seen extensive development and regional growth over the years that the California Coastal Management Program has been in place. In fact, Santa Cruz County's population has more than doubled since 1970 alone with current census estimates indicating that the County is home to over one-quarter of a million persons.¹⁴ This level of growth not only increases the regional need for housing, jobs, roads, urban services, infrastructure, and community services, but also the need for park areas, recreational facilities, and visitor serving amenities. For coastal counties such as Santa Cruz where the vast majority of residents live within a half-hour of the coast, and most significantly closer than that, coastal zone resources are a critical element in helping to meet these needs. Furthermore, with coastal parks and beaches themselves attracting visitors into the region, an even greater pressure is felt at coastal recreational systems and destinations like Pleasure Point. With the Santa Cruz County shoreline and beaches providing arguably the warmest and most accessible ocean waters in all of Northern California, and with the large population centers of the San Francisco Bay area, San Jose, and the Silicon Valley

¹⁴ Census data from 1970 shows Santa Cruz County with 123,790 persons; California Department of Finance estimates for the 2000 census indicate that over 255,000 persons reside in Santa Cruz County.



nearby, this type of resource pressure is particularly evident in coastal Santa Cruz County.

Live Oak is part of a larger area including the Cities of Santa Cruz and Capitola that is home to some of the best recreational beaches in the Monterey Bay area. Not only are north Monterey Bay weather patterns more conducive to beach recreation than the rest of the Monterey Bay area, but north bay beaches are generally the first beaches accessed by visitors coming from the north of Santa Cruz. With Highway 17 providing the primary access point from the north (including from the San Francisco Bay Area, San Jose and the Silicon Valley) into the Monterey Bay area, Santa Cruz, Live Oak, and Capitola are the first coastal areas that visitors encounter upon traversing the Santa Cruz Mountains (see exhibit A). As such, the Live Oak beach area is an important coastal access asset for not only Santa Cruz County, but also the entire central and northern California region.

Live Oak Beach Area

Live Oak is the name for the unincorporated segment of Santa Cruz County located between the City of Santa Cruz (upcoast) and the City of Capitola (downcoast) (see page 3 of exhibit A). The Live Oak coastal area is well known for excellent public access opportunities for beach area residents, other Live Oak residents, other Santa Cruz County residents, and visitors to the area. Walking, biking, skating, viewing, skimboarding, bodysurfing, surfing, fishing, sunbathing, and more are all among the range of recreational activities possible along the Live Oak shoreline. In addition, Live Oak also provides a number of different coastal environments including sandy beaches, rocky tidal areas, blufftop terraces, and coastal lagoons. Live Oak includes a number of defined neighborhood and special communities within it, including the larger Pleasure Point area within the heart of which the proposed project would be constructed. These varied coastal characteristics make the Live Oak shoreline unique in that a relatively small area provides different recreational users a diverse range of alternatives for enjoying the coast. By not being limited to one large, long beach, or solely an extended stretch of rocky shoreline, the Live Oak shoreline accommodates recreational users in a manner that is typical of a much larger access system.

Primarily residential with some concentrated commercial and industrial areas, Live Oak is a substantially urbanized area with few major undeveloped parcels remaining. Development pressure has been disproportionately intense for this section of Santa Cruz County. Because Live Oak is projected to absorb the majority of the unincorporated growth in Santa Cruz County, development pressure will likely continue to tax Live Oak's public infrastructure (e.g., streets, parks, beaches, etc.).¹⁵ Given that the beaches are the largest public facility in Live Oak, this pressure will be particularly evident in the beach area.

Pleasure Point

Pleasure Point is the name of the predominantly residential area located roughly between upcoast Moran Lake and downcoast 41st Avenue (at the "Hook" where it transitions to the Opal Cliffs area). Pleasure

¹⁵ The LCP identifies Live Oak at buildout with a population of approximately 29,850 persons; based on the County's recreational formulas, this corresponds to a park acreage of 150-180 acres. Though Live Oak accounts for less than 1% of Santa Cruz County's total acreage, this projected park acreage represents nearly 20% of the County's total projected park acreage.



Point is also the name of the offshore surfing area between Soquel Point (aka “Pleasure Point”) and the Hook (see exhibit A).¹⁶ This area has an informal, beach community aesthetic and ambiance that clearly distinguishes it from inland commercial areas as well as the downcoast Opal Cliffs neighborhood towards Capitola. Housing stock is eclectic, and densely crowded together. Though certainly in the midst of a gentrification that has intensified over the last decade or so, the Pleasure Point area retains its informal charm and appeal, much of it rooted in the intrinsic relationship between the built environment – and its inhabitants – and the surfing area offshore.

Pleasure Point is an extremely popular recreational surfing destination that is well known around the world. It is not uncommon to see more than 150 surfers in the water, even more when prime surfing conditions are present, and to see small crowds lining East Cliff Drive both enjoying the shoreline view and watching the surfing below.

There are two general areas within Pleasure Point where there are not houses between the public road and the sea. One of these is at the Rockview coastal accessway (at Soquel Point proper) and the other is the main Pleasure Point panorama that opens up when one travels along East Cliff between about 32nd and 41st Avenues (see exhibit A).¹⁷ These areas are extremely popular recreational use areas for immediate Pleasure Point residents as well as visitors from other parts of Live Oak, other parts of the County, and from further away. East Cliff Drive is a component of the California Coastal Trail, and a component of the Monterey Bay Sanctuary Scenic Trail, and is used by a significant number of people (i.e., joggers, bicyclists, walkers, etc.). East Cliff Drive was changed to one-way vehicular access in 1995 (in response to erosion of portions of it) with the area nearest the bluffs marked out as a multi-use recreational trail by a series of plastic bollards. The East Cliff Drive corridor from 32nd through 41st Avenues provides an amazing coastal vista, and many persons also enjoy this view by parking in the limited number of parking bays and/or by simply driving through and taking in the view.

Proposed Seawall Location

The seawall would extend along the bluffs from roughly 32nd Avenue through to 36th Avenue (see exhibit A). The seawall would start at the County’s Pleasure Point Park (at the corner of East Cliff Drive and 32nd Avenues) and extend through to a pile of rip-rap boulders fronting an existing residential structure (the O’Neill residence) clinging to the bluffs seaward of East Cliff near the terminus of 36th Avenue. The bluffs in the project area are approximately 30 feet tall, with the lower 10 feet or so made up of Purisima Formation sandstone and the upper portion consisting of marine terrace deposits. This bluff area includes two cribwalls (i.e., retaining walls) in the upper bluff, several wooden protective barriers at the blufftop edge (where portions of the road have been lost), and is fronted by approximately 2,800 to 4,800 cubic yards of concrete rubble that appears strewn along the beach throughout the project

¹⁶ Of course, there are a number of individually named breaks within this area (like Sewer Peak, First peak, Second Peak, 38th, etc.), but the overall surf area is known as Pleasure Point.

¹⁷ There are three intervening residential structures seaward of East Cliff Drive interspersed along this stretch, each blocking through views and access in different ways.



area.¹⁸ There is an abandoned restroom and an existing stairway at the foot of 35th Avenue and it is fronted with an estimated 1,200 cubic yards of rip-rap.¹⁹ There is an informal “stairway” of sorts consisting of a series of retaining walls nearest to 32nd Avenue that is a primary entrance point for surfers. The bluff is irregular, showing evidence of significant rilling and uneven erosion, with a slope ranging generally from 45 to 60 degrees.

See exhibit A for location maps and project area photos.

8. Project Description

Pleasure Point Seawall

ACOE proposes to remove the existing restroom and coastal access stairway near 35th Avenue, and to construct a concrete seawall covering all of the bluff area between Pleasure Point Park and the O’Neill residence at the foot of 36th Avenue, a linear distance of roughly 1,100 feet. Existing crib walls would be concealed behind the seawall. Existing concrete rubble would be removed, with some of it incorporated into seacave fills and concealed behind the seawall, and the remainder disposed of off site. Some existing rip-rap would be relocated within the project area to provide a transition between the seawall and neighboring armoring, and the remainder removed, though the precise amounts of each are not identified.

The seawall would be keyed into the underlying Purisima Formation to -3 NGVD, and would extend to the top of the bluff (to approximately +34 NGVD). A five-foot wide (extending seaward) concrete scour apron would be incorporated into the keyway. The plan for the proposed seawall includes a series of horizontal steel tieback rods (i.e., “soil nails”²⁰) that would be drilled about 21 feet into the bluffs at 6 foot on-center (both horizontal and vertical) spacing. The steel rods would be fastened at the bluff face with wire mesh onto which concrete would sprayed, about 2 feet thick, and sculpted and colored to approximate a natural bluff landform (see photo simulation of the proposed seawall in exhibit C, and see photos of examples of completed “soil nail” wall projects in exhibit E). Two concrete stairways incorporated into the seawall would be constructed; a new stairway near Pleasure Point Park and a replacement stairway (for the one removed) near 36th Avenue. Existing storm drain outlets would be retained, with the exception that two drainage pipes near 35th Avenue would be replaced by a single outlet pipe. Some additional blufftop space would be created by backfilling behind the seawall structure in limited areas. See project plans in exhibit B.

¹⁸ The Commission has been unable to establish a history, permit or otherwise, for these materials, and ACOE declined to provide any information when requested. This information is critical to establishing a baseline against which to compare the proposed project (i.e., what portions pre-date coastal permitting requirements and/or have been permitted, and what portions not). Its omission hampers the CCMP evaluation of the proposed project (see also exhibit O)

¹⁹ Ibid.

²⁰ Soil nails are structural, high-strength rebars, grouted into drilled holes and inclined slightly downward into the soil. The soil nails stabilize a bluff by improving the continuity of the overall mass and providing anchorage into the more stable soil zone behind the active mass.



Construction would require heavy equipment be lowered to the beach by a crane to excavate the seawall keyway and footing and to move concrete and rip-rap in the project area. Excavated materials would be removed offsite. The project would be constructed on State Lands and would require a State Lands lease, and would result in fill of the Sanctuary, thereby requiring Sanctuary approval as well.

ACOE estimates that the seawall project would cost \$7 million, and take about half a year to construct.

Related Development

There are two other related projects that are not a part of this consistency determination, but are intimately related to the Pleasure Point seawall.²¹

The first is a Santa Cruz County proposal to reconstruct the East Cliff Drive right-of-way between 32nd and 41st Avenues with an improved recreational trail and other related amenities (park and restroom improvements at Pleasure Point Park, increased parking spaces, landscaping, benches, etc.). This East Cliff Drive project is called the “East Cliff Drive Parkway” project, and it is dependent (in its current configuration) upon ACOE’s seawall project to proceed. The East Cliff Drive Parkway is not an ACOE project and it is not a part of this consistency determination. The Parkway project would require a CDP from the County. See exhibit D for conceptual plans of the parkway project that show how it physically relates to the proposed seawall.

The second project is a seawall fronting the Hook public access overlook (the Hook seawall) at the foot of 41st Avenue. ACOE estimates that the Hook seawall would be about 300 feet in length, and that it would be the same type of seawall design/construction as proposed here. It is not clear at this time whether the Hook seawall would be an ACOE project or a County project or something else. The Hook seawall is not a part of this consistency determination. The Hook seawall project would require a separate Commission consistency determination and/or a CDP, depending upon ACOE’s level of involvement in it.

9. Objection Determination

A. Geologic Conditions and Hazards

1. Applicable Policies

Coastal Act Section 30235 addresses the use of shoreline protective devices such as that proposed:

***30235.** Revetments, breakwaters, groins, harbor channels, seawalls, cliff retaining walls, and other such construction that alters natural shoreline processes shall be permitted when required to serve coastal-dependent uses or to protect existing structures or public beaches in danger from erosion, and when designed to eliminate or mitigate adverse impacts on local shoreline*

²¹ Note that the ACOE EIS was actually a combined EIS/EIR that covered the 3 related projects.



sand supply. Existing marine structures causing water stagnation contributing to pollution problems and fish kills should be phased out or upgraded where feasible.

Coastal Act Section 30253 addresses the need to ensure long-term structural integrity, minimize future risk, and to avoid landform altering protective measures in the future. Section 30253 provides, in applicable part:

Section 30253. New development shall:

- (1) Minimize risks to life and property in areas of high geologic, flood, and fire hazard.*
- (2) Assure stability and structural integrity, and neither create nor contribute significantly to erosion, geologic instability, or destruction of the site or surrounding area or in any way require the construction of protective devices that would substantially alter natural landforms along bluffs and cliffs.*

Among other things, Coastal Act Section 30233(a) lists the type of development that is allowed to fill open coastal waters (as is proposed here). Section 30233(a) states:

Section 30233(a). *The diking, filling, or dredging of open coastal waters, wetlands, estuaries, and lakes shall be permitted in accordance with other applicable provisions of this division, where there is no feasible less environmentally damaging alternative, and where feasible mitigation measures have been provided to minimize adverse environmental effects, and shall be limited to the following:*

- (1) New or expanded port, energy, and coastal-dependent industrial facilities, including commercial fishing facilities.*
- (2) Maintaining existing, or restoring previously dredged, depths in existing navigational channels, turning basins, vessel berthing and mooring areas, and boat launching ramps.*
- (3) In wetland areas only, entrance channels for new or expanded boating facilities; and in a degraded wetland, identified by the Department of Fish and Game pursuant to subdivision (b) of Section 30411, for boating facilities if, in conjunction with such boating facilities, a substantial portion of the degraded wetland is restored and maintained as a biologically productive wetland. The size of the wetland area used for boating facilities, including berthing space, turning basins, necessary navigation channels, and any necessary support service facilities, shall not exceed 25 percent of the degraded wetland.*
- (4) In open coastal waters, other than wetlands, including streams, estuaries, and lakes, new or expanded boating facilities and the placement of structural pilings for public recreational piers that provide public access and recreational opportunities.*
- (5) Incidental public service purposes, including but not limited to, burying cables and pipes or inspection of piers and maintenance of existing intake and outfall lines.*
- (6) Mineral extraction, including sand for restoring beaches, except in environmentally sensitive areas.*



(7) Restoration purposes.

(8) Nature study, aquaculture, or similar resource dependent activities.

2. Analysis of Consistency with Applicable Policies

A. Filling Coastal Waters

The ACOE seawall requires fill below the mean high tide line (i.e., fill of coastal waters). Section 30233 of the Coastal Act identifies eight allowable uses for the dredging, diking, and filling of coastal waters; seawalls are not one of the listed uses. As a result, a seawall is prohibited in coastal waters by Section 30233(a). However, Section 30235 of the Coastal Act requires the Commission to approve a seawall if it is necessary to protect an existing structure and if it meets the other requirements of that section. Section 30235 clearly anticipates dredging, diking, and filling of coastal waters for seawalls and is a more specific policy than Section 30233(a) in this regard. In other words, Section 30235 of the Coastal Act requires the Commission to approve seawalls in certain circumstances, even though such activities may not comply with the allowable-use test of Section 30233(a) of the Coastal Act. Thus, to the extent Section 30235 requires that the Commission approve this project, the more specific direction of Section 30235 would override in this case.²²

As seen in the findings that follow, the proposed project does not meet all Section 30235 requirements. As a result, Commission approval of it is not required and the project is inconsistent with Coastal Act Section 30233(a) (see also below).

B. Allowing Shoreline Armoring

Coastal Act Section 30235 acknowledges that seawalls, revetments, cliff retaining walls, groins and other such structural or “hard” methods designed to forestall erosion also alter natural landforms and natural shoreline processes. Accordingly, with the exception of new coastal-dependent uses, Section 30235 limits the construction of shoreline protective works to those required to protect existing structures or public beaches in danger from erosion. The Coastal Act provides these limitations because shoreline structures can have a variety of negative impacts on coastal resources including adverse affects on sand supply, public access, coastal views, natural landforms, and overall shoreline beach dynamics on and off site, ultimately resulting in the loss of beach.

Under Coastal Act Section 30235, a shoreline structure must be approved if: (1) there is an existing structure; (2) the existing structure is in danger from erosion; (3) shoreline-altering construction is required to protect the existing threatened structure; and (4) the required protection is designed to eliminate or mitigate its adverse impacts on shoreline sand supply. The first three questions relate to

²² Note that other coastal resource issues associated with such fill are addressed in subsequent findings. Note too that the requirements of Section 30233(a) as regards mitigating impacts and identifying the last environmentally damaging feasible alternative would still apply. The intent of this finding is to explain the distinction between Sections 30233(a) and 30235 as it relates to seawalls occupying coastal waters. Giving precedence to the more particular provisions of Section 30235 over the more general provisions of sections 30233(a) and is in accord with generally applicable principles of California law. See, for example, Civil Code Section 3534 (“Particular expressions qualify those which are general”).



whether the proposed armoring is necessary, while the fourth question applies to mitigating some of the impacts from it.

1. Existing Structure to be Protected

For the purposes of shoreline protective structures, the Coastal Act distinguishes between development that is allowed shoreline armoring, and development that is not. Under Section 30253, new development is to be designed, sited, and built to allow the natural process of erosion to occur without creating a need for a shoreline protective device. Coastal development permittees for new shorefront development are thus making a commitment to the public (through the approved action of the Commission, and its local government counterparts) that, in return for building their project, the public will not lose public beach access, offshore recreational access, sand supply, visual resources, and natural landforms, and that the public will not be held responsible for any future stability problems. In other words, coastal zone development approved and constructed since the Coastal Act should not require shoreline protection in order to “assure stability and structural integrity” because it was constructed with adequate setbacks and/or other measures in order to negate the need for future armoring.

In addition, the Commission has generally interpreted Section 30235 to apply only to existing principal structures. The Commission must always consider the specifics of each individual project, but has generally found that accessory structures (such as patios, decks, gazebos, stairways, etc.) are not required to be protected under Section 30235, or can be protected from erosion by relocation or other means that do not involve shoreline armoring. The Commission has generally historically permitted at grade structures within geologic setback areas recognizing that they are expendable and capable of being removed rather than requiring a protective device that would alter natural landforms and processes along bluffs, cliffs, and beaches.

Coastal Act 30235 allows for shoreline protection in certain circumstances (if warranted and otherwise consistent with Coastal Act policies) for “existing” structures. One class of “existing structures” refers to those structures in place prior to the effective date of the Coastal Act. Coastal zone development approved and constructed prior to the Coastal Act went into effect was not subject to Section 30253 requirements. Although some local hazard policies may have been in effect prior to the Coastal Act, these pre-Coastal Act structures have not necessarily been built in such a way as to avoid the future need for shoreline protection (in contrast to those evaluated pursuant to Section 30253). Accordingly, Coastal Act 30235 allows for shoreline protection to be considered for these types of existing structures, where “existing” means it was permitted development prior to the Coastal Act.

A second class of existing structures refers to those structures that have been permitted since the effective date of the Coastal Act. There has long been discussion that these structures should not constitute “existing structures” for purposes of Section 30235 because they were developed pursuant to 30253 (and/or similar LCP) standards so as not to require shoreline armoring in the future. However, the Commission has generally interpreted “existing” to mean structures existing at the time the armoring proposal is being considered, whether these structures were originally constructed before or after the Coastal Act, and has not limited consideration of armoring only to those structures constructed prior to



the Coastal Act.²³

And finally, in a limited number of cases, the Commission has required applicants for blufftop structures to waive any right to a seawall that may exist pursuant to Section 30235; in other words to stipulate that they are not existing structures for 30235 purposes because the structures have been sited and designed to not need shoreline armoring in the future (pursuant to Section 30253 and LCP counterpart policies).²⁴

In the East Cliff Drive case, the structures for which protective armoring is being considered are East Cliff Drive, including the recreational component of it nearest the bluff edge, and the subsurface utilities.²⁵ These structures pre-date the Coastal Act, and thus are existing structures for purposes of Section 30235.

2. Danger from Erosion

The Coastal Act allows shoreline armoring to protect existing structures in danger from erosion, but it does not define the term “in danger.” There is a certain amount of risk in maintaining development along a California coastline that is actively eroding and can be directly subject to violent storms, large waves, flooding, earthquakes, and other hazards. These risks can be exacerbated by such factors as sea level rise and localized geography that can focus storm energy at particular stretches of coastline. As a result, some would say that all development along the immediate California coastline is in a certain amount of “danger.” It is a matter of the degree of threat that distinguishes between danger that represents an ordinary and acceptable risk, and danger that requires shoreline armoring pursuant to Coastal Act Section 30235. Lacking Coastal Act definition, the Commission’s long practice has been to evaluate the immediacy of any threat in order to make determinations as to whether an existing structure is “in danger.” While each case is evaluated based upon its own particular set of facts, the Commission has generally interpreted “in danger” to mean that an existing structure would be unsafe to use or otherwise occupy within the next two or three storm season cycles (generally, the next few years) if nothing were to be done (i.e., in the no project alternative).

Portions of East Cliff Drive in the project area have already fallen to the beach below. The road was reduced to one-way vehicular travel in 1995 in response to some such erosion events.²⁶ Currently, portions of the pavement are cordoned off and are off-limits to access due to the loss of bluff area below them (see photos in exhibit A). The collector sewer line below the East Cliff Drive pavement is

²³ Note that there is litigation pending in San Francisco County Superior Court (case number CPF 03503643, *Surfrider Foundation v. California Coastal Commission*) involving the Commission’s application of this interpretation of “existing structures” based on a recent Commission decision in a Pismo Beach seawall case (A-3-PSB-02-016; Grossman-Cavanagh). In their petition, the Surfrider Foundation challenges the interpretation that existing structures mean structures existing at the time of the decision, alleging instead that the term “existing structures” (per Section 30235) refers to structures existing prior to the enactment of the Coastal Act. As of the date of this staff report, no decisions have been reached in the case.

²⁴ For example, the Swenson residence just downcoast of Opal Cliffs in the City of Capitola (A-3-CAP-99-023, approved by the Commission in 1999).

²⁵ Note that there is at least one intervening (between East Cliff Drive and the ocean) privately owned parcel that would be protected by the seawall nearest to its downcoast end. ACOE and the County indicate that this parcel would be acquired, but there hasn’t been any information submitted to date on acquisition efforts.

²⁶ Ultimately, this action was recognized by Santa Cruz County CDP 96-0029 in 1996.



approximately 15 to 20 feet from the bluff edge (on average) and appears to be as close as 11 feet in several places. ACOE estimates long term average annual bluff retreat at approximately 1 foot per year, with the potential for larger bluff failures of up to 10 feet in a single episode. The Corps has concluded that the existing structures are in danger from erosion in this case.

Unfortunately, however, the underlying threat evaluation and the submitted project plans have not been fully developed in a manner designed to more precisely define the degree of threat within the project area. Missing is a more precise evaluation showing more specifically what portions of what structures are in danger and to what degree. This evaluation is critical for understanding the basis of the threat, and the range of appropriate responses to it. It is insufficient to rely solely upon the estimated long-term bluff erosion rate of 1 foot per year for this purpose, as this rate is a long-term average and not well-suited to estimate erosion over short time intervals due to the episodic nature of coastal erosion, in general, and at this site in particular. Rather, this erosion rate figure must be understood in relation to the geologic structure and configuration of the bluff, and the potential for failure of portions of the bluff in episodic events as well as more steadily over the long term. Episodic erosion and the degree to which structures may be at risk are best understood by evaluating the largest potential episodic bluff failure events, the likelihood of such events, and the proximity of structures to areas likely to experience such events. Information on past episodic bluff failure events in the project area, including locations of same and the nature/size of the bluff loss, has likewise not been documented (although ACOE references up to 10 feet of bluff loss, this event is not documented nor is it known where it occurred – or could occur in the future – within the project area, and why). A quantitative slope stability analysis has not been provided that describes threat in terms of bluff stability, potential failure planes, and minimum factors of safety. Thus, while the Commission's geologist has evaluated the project and the project's underlying threat evaluation, and can conclude that some portions of the existing structures are "in danger" as that term is understood in a Coastal Act context, the lack of better spatial and temporal information in the threat evaluation make this an oversimplification for the larger project area as a whole, and insufficient for project review given the types of impacts expected from the proposed seawall.

Given the incomplete evaluation, the Commission can conclude that portions of East Cliff Drive, or more precisely portions of the former East Cliff Drive that now serve as the recreational trail nearest the bluff, and portions of the underground utilities qualify as existing structures in danger from erosion for purposes of Section 30235. Lacking more comprehensive evaluation, the Commission cannot find that all of East Cliff Drive and all sub-surface utilities (or any other structures) within the project area are in danger from erosion.²⁷ Thus, portions of the existing structures are in danger from erosion as that term is understood in Coastal Act context.

3. Feasible Protection Alternatives to a Shoreline Structure

The next Section 30235 test that must be met before a shoreline protective device can be approved is that the proposed armoring must be "required" to protect the existing threatened structure. In other

²⁷ See also "Threat Evaluation" section of exhibit O.



words, shoreline armoring must be permitted if it is the only feasible²⁸ alternative capable of protecting the endangered structure. When read in tandem with other applicable Coastal Act policies protecting coastal resources as cited in these findings, this 30235 evaluation is often conceptualized as a search for the least environmentally damaging feasible alternative that can serve to protect existing endangered structures. Other alternatives typically considered include: the “no project” alternative; abandonment of threatened structures; relocation of the threatened structures; sand replenishment programs; drainage and vegetation measures on the blufftop itself; and combinations of each. Because the no project alternative does not protect the existing endangered structures (at least the portions of them that are in danger, as described above), it is not feasible in a 30235 protection sense.²⁹

In this case, ACOE’s alternatives analysis is limited to options that involve varying degrees of armoring.³⁰ These include armoring only the Purisima Formation bedrock at the base of the bluff, armoring the Purisima as well as portions of the terrace deposits in several locations, and a combination of filling seacaves and constructing three artificial groins in the project area. Each of the Corps’ evaluated alternatives share many of the same armoring-related impacts (to varying degrees) as the proposed project. Despite this limited alternatives analysis, it is important to consider whether there is a non-armoring alternative that could be pursued to avoid armoring impacts.

Drainage and landscaping

Although not analyzed by ACOE, a non-shoreline structure alternative typically considered by the Commission to respond to erosion is the use of selected bluff plantings and improved blufftop drainage controls. In this case, it is clear that uncontrolled drainage over the top of the bluff has resulted in some erosion of the bluffs. The bluff slopes are partially vegetated, but are primarily exposed marine terrace deposits. There is little doubt that drainage control and some planting would help reduce erosion at this location. However, the alternative of plantings and bluff drainage controls (in some combination) is not necessarily meant to be considered an equal alternative to a seawall or other more major form of bluff altering armor. In fact, this alternative is not generally seen as the ultimate “fix” or as a replacement for a “hard” armoring project such as that proposed. Rather, these types of “soft” alternatives can serve to extend the design life of setbacks by increasing bluff stability and slowing erosion. Thus, they must be understood as alternatives that can allow for natural processes to continue while simultaneously providing continued stability to the bluff. Given the active forces of erosion taking place unabated along

²⁸ Note that Coastal Act Section 30108 defines feasibility as follows: “Feasible” means capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, social, and technological factors.

²⁹ Note that this option is preferred by MBNMS (see Sanctuary comment letter in exhibit L). A Sanctuary permit would be required for the proposed seawall to be constructed. Sanctuary regulations prohibit fill within the Sanctuary, although this prohibition can be suspended at the discretion of the Sanctuary Superintendent. It is not clear whether the Sanctuary would ultimately authorize the subject seawall, and Sanctuary staff have been unable to conclude on this point. It is clear from the comment letter, however, that the Sanctuary prefers other options than the seawall proposed by ACOE.

³⁰ Note that Commission staff requested a thorough evaluation of non-armoring alternatives in NOP comments dated March 6, 2001 and in draft EIS/EIR comments dated May 12, 2003 (and even earlier in public comments at community meetings in 2000). On this point the Corps final EIS/EIR indicates that the alternatives reviewed were in response to recommendations received during 2001 and 2002 scoping, and concludes that “the alternatives were selected to fulfill requirements of NEPA and CEQA [that] require evaluating a reasonable range of alternatives, not all possible options and permutations.”



the unarmored California coast, erosion will eventually (over the long-term) result in bluff retreat. At that point, in some cases, plantings and bluff drainage controls may not be adequate to address the erosion problem of themselves (particularly if they have already been implemented previously and their effect on bluff stability already factored into the analysis), and other alternatives could become more feasible (including wholesale relocation out of danger and even armoring of the coast).

Because East Cliff Drive is already being undermined in discrete locations, it does not appear that additional drainage controls and/or additional plantings by themselves would be able to stabilize the bluff to such a degree as to protect against additional loss of East Cliff Drive even from a relatively small bluff failure in one major storm event that affected these undermined areas. This alternative alone would be insufficient to protect the portions of the existing structures that are threatened in this case. That said, aggressive planting and drainage controls have a utility in all other alternative project scenarios and should be included in any project here. More importantly, in order to fully understand this project permutation, it needs to be evaluated by ACOE (see also exhibit O).

Relocation of Endangered Structures

Approximately 5 to 10 feet of the East Cliff Drive right-of-way between 32nd and 36th Avenue is covered by private landscaping and other development, and in places sidewalk. This space could be used to relocate the road and pedestrian trail component of it inland roughly 5 to 10 feet. It is unclear what this relocation would cost, and ACOE did not provide any requested information on this road relocation alternative. The subsurface utilities could also be moved inland, and ACOE estimates that the utility relocation would cost almost \$1 million.³¹ It is not clear whether the funding allotted to the seawall could be used instead for an alternative relocation project, and it is not clear to what extent that it would still be a ACOE project at that point.³²

In any event, it is physically possible to relocate the road and utilities inland, and the cost would likely be some amount over \$1 million (utilities and road work). Given that the seawall would cost \$7 million on its own, this cost is not unreasonable in comparison. It is not clear whether some combination of funds associated with the Parkway project and associated with the seawall project could be combined and used for such a project or not (since this alternative involves both project areas).³³

However, the Commission's geologist has concluded generally that the 5 to 10 feet of additional setback gained for the road could be removed in one major storm event if it were to occur at those locations where the amount of blufftop space is the most limited (i.e., generally when the existing pavement has been undermined). Thus, relocation cannot be expected to protect the endangered portions of the

³¹ Estimated by the Corps to cost \$963,627.

³² Although requested, ACOE declined to evaluate this option or identify how funding could be used. On the latter point, the final EIS/EIR indicates that "providing specific funding details is not necessary for purposes of the environmental review." This response, of course, does not address the analytic question of whether other feasible alternatives are available and the role that project funding requirements and options may play in this alternatives analysis. In addition, the intervening private property acquisition includes an unknown cost, and the potential need for a State Lands lease may include a cost, that need to be understood in the context of alternatives analysis.

³³ Ibid.



existing structures for any significant length of time. That said, ACOE did not thoroughly evaluate this option, and the degree that it, or permutations of it, could protect endangered portions of structures and to what degree. And the Commission geologist's observations are based on the general threat evaluation provided, and not based on more precise threat evaluation because these finer gradations of risk assessment at the site have not been provided (as described above). The lack of such an evaluation means that the Commission cannot say with certainty whether or not this would be a feasible alternative, and does not allow the Commission to weigh this alternative against the proposed project and other alternatives that may also be feasible. This represents a fatal flaw in the Coastal Act alternatives analysis that would need to be corrected in any future analyses of an armoring project at the subject site (see also exhibit O for a detailed list of additional information requirements in this regard).

Relocation and Modification of Endangered Structures

In order for relocation inland to provide adequate protection (and setbacks), some portion of the existing road/recreational trail would need to be eliminated. In other words, the structures to be protected would need to be reduced in scope. ACOE did not evaluate this option.³⁴

It is not clear how much of a bluff setback would need to be established in order to protect the endangered structures in this case. The long-term average annual bluff retreat rate of 1-foot per year is informative, but it cannot be used alone to make this determination because the episodic nature of coastal erosion makes it difficult to predict bluff retreat over short time intervals. If a 25-foot setback were used (to allow for continued steady erosion and the maximum estimated large block failure occurring two years in a row), it appears unlikely that a reduced scale road and trail could be re-constructed inland. However, the threat evaluation does not include detailed information with which to support such a hypothesis, and would need to be better fleshed out and applied to this alternative for the Commission to be able to conclude with certainty on this alternative.³⁵

Again, this represents a fatal flaw in the Coastal Act alternatives analysis that would need to be corrected in any future analyses of an armoring project at the subject site (see also exhibit O for a detailed list of additional information requirements in this regard).

Beach Formation

Regional programs to promote beach building (through beach nourishment, sand bypass/corrective measures at the Harbor, etc.) can reduce both the rate of erosion and the need for armoring. That said, during the types of episodic storms prevalent in Monterey Bay, such newly formed beach sands are likely to be moved offshore by wave action and not provide adequate protection against large storms.

In terms of the Santa Cruz Harbor, it is possible that this section of coast may have reached a new equilibrium inasmuch as a nearly maximum beach has formed upcoast of the Harbor. Sand appears to

³⁴ Ibid.

³⁵ For example, it is unlikely that the same location that lost ten feet of bluff would lose another ten immediately following because bluffs tend to vacillate between oversteepened and understeepened conditions (the former will be "corrected" by episodic failure, and the latter will be "corrected" by continued marine erosion at the toe of the bluff).



generally bypass this upcoast beach and the Harbor, although likely less so in winter when the beach is narrower. However, some of the sand now bypassing the jetties is also now likely diverted into deeper Bay waters; thus not reaching downcoast beaches at all. And although sand that is trapped in the Harbor channel is routinely dredged and deposited on the downcoast beach for nourishment, downcoast beaches may be deprived of a portion of this sand in winter months when it is most needed to protect bluffs from surf erosion. Modification of the project to include the use of some upcoast (of the Harbor) beach sand to nourish downcoast beaches and/or to include some form of active beach nourishment (to increase the volume of sand in the littoral system) would likely help build beaches in the project area, but the extent to which this would protect endangered structures here is unclear, and hasn't been thoroughly evaluated by ACOE.

In sum, this type of alternatives information, although requested, has not been developed by ACOE and thus there is a certain amount of uncertainty in terms of the degree of protection that could be provided in this regard. Based on available information, it does not appear that such options could protect those portions of the existing structures that are in danger at this location, but the Commission cannot conclude with certainty lacking information. Again, this represents a fatal flaw in the Coastal Act alternatives analysis that would need to be corrected in any future analyses of an armoring project at the subject site (see also exhibit O for a detailed list of additional information requirements in this regard).

Planned Retreat

The concept of planned retreat posits that instead of allowing continued armoring, the shoreline should be allowed to retreat naturally. In this way, as the shoreline naturally erodes and sea level rises, new beaches would form (as bluffs naturally crumble and contribute sand to beaches over time). Beach formation would partly be assisted by the sand generating material in the "freed" bluffs themselves, but more importantly there would be space for the natural equilibrium between the shoreline and the ocean to establish itself and beaches formed.

The primary difficulty with a planned retreat strategy is that much of the armored shoreline (and shoreline where armoring is considered) is currently fronting development, residential and otherwise, that would eventually need to be retired (e.g., purchased, with armoring (if any) and development on it removed) if the shoreline were to be allowed to retreat naturally. The cost of retiring such development statewide (or even in identified sub-regions) would be extremely high, particularly in urban areas of the state (such as the project location) where some of the most expensive homes and real estate are located at the shoreline's edge.³⁶ Of course, in areas where planned retreat were formally codified, and where the costs of maintaining development in such high hazard areas were thus internalized, these properties and the developments on them would become less expensive as a result.

³⁶ Part of the reason that such property and the development on it is so costly is that the true costs of maintaining such development are not entirely internalized by such property owners. For example, the cost to the people of the State (and visitors to it) from a long term loss of beach due to private armoring is not borne by these property owners. Likewise, low- and no-interest government-backed loans (e.g., FEMA), and even disaster replacement grants, are available to property owners in such high hazard areas, where the public bears the cost of providing grants and/or making funds available for free and/or at less than market loan rates. If these true costs were internalized, these properties and the development on them would be less expensive.



There are, of course, multiple permutations of a planned or managed retreat policy. These include using beach nourishment to slow coastal erosion, temporary protection measures during winter storms (e.g., removable walls, sand berms, etc.), and adequate setbacks for new development. On the latter point, it is noted that the Coastal Act requires that new development to be set back a sufficient distance to allow natural erosion to take place without reliance on future armoring. Typically, the setback distance is established based on an estimated economic lifetime of the development (typically 50 to 100 years). However, history has proven that coastal real estate does not have such an economic lifetime. Rather, the development lifetime for shoreline real-estate (given current policies and the lack of internalization of the true “costs” of development in high hazard areas) is essentially infinite with armoring. Over time, even well set back development will require some manner of shoreline protection. This is the case even if these structures were built to a one-hundred year setback, and even if the need does not arise for one-hundred years.³⁷ In any case, to date, the Commission and its local government partners have not systematically accounted for the second part of the one-hundred year setback equation – namely, enforcing the identified economic lifetime for such high hazard area development.³⁸ More troubling, the Commission is being faced with applications for extremely well-engineered structures designed to withstand long-term erosion not through the use of setbacks, but rather by using large, deeply embedded piers designed to elevate the useable structural areas higher than expected storm events. If such structures can withstand long term erosion and sea level rise (as they are being designed to do), they will eventually be severed from the shoreline as it continues to retreat – becoming much like small oil drilling platforms dotting the shoreline.

In this case, ACOE did evaluate planned retreat as it relates to the 32nd Avenue through 36th Avenue project area. The idea in this case would be that over the long run the 12 – 14 inland residences would be acquired, demolished, and the public improvements relocated inland as necessary in response to shoreline erosion. Of course, this “rolling setback” would not be a one-time cost, but rather would continue in response to continuing natural erosion. In its evaluation, ACOE dismissed planned retreat based on the high cost of acquiring the directly inland residences at this location and relocating public improvements inland,³⁹ and also dismissed it based on the assertion that such a program “could not be reasonably devised for the project area alone but would need to be addressed on a policy level and implemented on a regional basis, in concert with other land management agencies.” Regarding the former, shoreline fronting development’s value is artificially inflated due to the lack of internalization of hazardous location costs (as discussed above). Costs can also be spread over time just as with any large-scale public investment, and acquisition would not need to occur immediately or at the same time. That said, it would take large-scale programmatic change to have these costs internalized appropriately. It is clear that inland acquisition at this location and at this time would be extremely costly.

As stated by the Corps, a successful planned retreat strategy likely would involve a much larger

³⁷ Note that the Commission and local government is increasingly being confronted with applications for armoring to protect development that was set back for one-hundred years of erosion, but that is already in danger. In some cases, the subsequent armoring application follows within a few years (like the aforementioned Grossman-Cavanagh project that is the subject of pending litigation).

³⁸ That is, requiring such development to be moved or removed after the end of its identified lifetime.

³⁹ Estimated to cost \$52 to \$70 million.



geographic region than the project area here. Much of urbanized Santa Cruz County up and downcoast is armored. These areas, too, would likely need to be part of a planned retreat strategy. Although it is unclear at the current juncture whether planned retreat in California will come to fruition, it is worthy of consideration and broader discussion. The beaches of California, including those here in Santa Cruz County, are an irreplaceable resource. If they are going to be lost to an armored shoreline, it should not be allowed to happen incrementally and without public awareness and deliberation. Rather, such a fundamental resource issue for the State requires that conscious decisions be made (legislative, regulatory, judicial), including acknowledging the difficult choices inherent in that decision.

In this case, planned retreat could provide space with which to relocate endangered structures, but its high cost may make it infeasible at the current time. It is difficult to establish this with certainty, though, as the planned retreat analysis submitted omits valuation for the benefits that derive from not armoring the bluffs (to beaches, surfing, natural landform, etc.), and thus comparison of this alternative with others is made more difficult. Also, conceptual plans depicting such an alternative over time, and the expected time when each “wave” of rolling retreat (and further property acquisition) would be necessary are not provided nor described. Thus, the Commission cannot say with certainty whether this option, or permutations of it, may be feasible and preferred at the project site from a Coastal Act perspective.

Of course, if, in the future, the State or even local governments embrace planned retreat as a strategy, the removal of a hard armoring structure at the project location would be a small part of that program inasmuch as many miles of hard armoring would need to be removed and other shore-fronting development retired to allow for the strategy to work comprehensively.

Alternatives Conclusion

ACOE has provided only limited information and analysis on non-armoring alternatives. Because of this, the Commission’s ability to fully analyze alternatives is limited. In addition, the Sanctuary, a regulatory agency from which the Corps would also need to obtain authorization, has made it clear in their project comments that the no project alternative or some other softer approach than the seawall are their preference at this location. The Sanctuary, like the Commission, needs better information on non-armoring alternatives with which to make informed project decisions at this location.

The Commission believes that there may be alternatives, or more appropriately a combination of alternatives, that could help to lessen the short-run danger to existing structures at this location without shoreline armoring. These include such relatively minor actions such as installing better drainage control structures and planting vegetation on exposed bluff soils, and more major actions such as immediate relocation of portions of the road and the underlying utilities. Without a clear and nuanced threat evaluation, without clear project plans that show the proposed project and alternatives in relation to existing site conditions, and without a thorough alternatives analysis, though, it is not clear to what degree such alternatives would be able to increase the effective life of the setback established, protect the endangered portions of structures, protect significant on and offshore coastal resources, and ultimately be approvable under the CCMP. Given the way the project is segmented, and lacking information on project costs and funding (and/or mandates associated with funding), it is also not clear to what degree these projects would fall under the scope of ACOE’s authorities and funding, could or



should be combined in some way with the County's blufftop project, and/or could otherwise come to fruition.⁴⁰ It may also be that regional programs to promote beach formation (through beach nourishment, sand bypass/corrective measures at the Harbor, etc.) could reduce both the rate of erosion and the need for armoring. However, thorough information has not been developed on these measures (and permutations of them) and there remains a certain amount of uncertainty in the evaluation of these options.

The Commission is unwilling to make a decision on a seawall project of this magnitude without adequate information to be able to fully understand the project site in relation to the proposed project and potential less damaging alternatives. The lack of comprehensive threat evaluation and alternatives analysis makes it unclear to what degree various non-seawall alternatives may make less or more CCMP sense at this location, and represents a fatal flaw for the ACOE consistency determination. Any project eventually approved here needs to protect any endangered structures while also having the least impact on coastal resources, and commensurately mitigating any impacts that cannot be avoided.

The Commission, therefore, cannot determine whether the project meets the third test of Section 30235 of the Coastal Act without additional alternatives analysis (see also exhibit O for a detailed list of additional information requirements in this regard).

4. Sand Supply Impacts

The fourth test of Section 30235 (previously cited) that must be met in order to require Commission approval is that shoreline structures must be designed to eliminate or mitigate adverse impacts to local shoreline sand supply.

Shoreline Processes

Beach sand material comes to the shoreline from inland areas, carried by rivers and streams; from offshore deposits, carried by waves; and from coastal dunes and bluffs, becoming beach material when the bluffs or dunes lose material due to wave attack, landslides, surface erosion, gullyng, et cetera. Coastal dunes are almost entirely beach sand, and wind and wave action often provide an on-going mix and exchange of material between beaches and dunes. Many coastal bluffs contain marine terrace deposits that may consist, in part, of ancient beach deposits that formed when land and sea levels differed from current conditions. Since some marine terrace deposits consist of ancient beach material, a large proportion of the material in the terraces is often beach quality sand or cobble, and a valuable contribution to the littoral system when it is added to the beach. While beaches can be preserved as marine terrace deposits over geologic time, the normal exchange of material between beaches and bluffs is for bluff erosion to provide material to the beach. Bluff retreat and erosion is a natural process resulting from many different factors such as: erosion by wave action that may cause cave formation, enlargement and eventual collapse; saturation of the bluff soil from ground water causing the bluff to slough off; and natural bluff deterioration. When the back-beach or bluff is covered by a shoreline

⁴⁰ Note, too, that information regarding acquisition efforts (including cost of same) for the privately owned intervening property affects the analysis of appropriateness of a armoring project overall, and the analysis of alternatives, and needs to be factored into these evaluations. The same can be said for potential State Lands lease costs.



protective device, the natural exchange of material either between the beach and dune or from the bluff to the beach will be interrupted and, if the shoreline is eroding, there will be a measurable loss of material to the beach. Since sand and larger grain material is the most important component of most beaches, only the sand portion of the bluff or dune material is quantified as beach material.

These natural shoreline processes affecting the formation and retention of sandy beaches can be significantly altered by the construction of shoreline armoring structures since bluff retreat is one of several ways that beach quality sand is added to the shoreline. Bluff retreat and erosion is a natural process resulting from many different factors; shoreline armoring directly impedes these natural processes.

The subject site is located within the Santa Cruz littoral cell. The Santa Cruz cell is a high volume cell with annual longshore transport estimated between 300,000 and 500,000 cubic yards of beach quality materials annually.⁴¹ The dominant direction of longshore transport in this sand supply system is north north-west to south south-east (roughly from up to downcoast in relation to the site).⁴² Materials in this system have been estimated to come mainly from coastal streams (roughly 75%), with 20% coming from bluffs, and 5% coming from coastal ravines and sand dunes.⁴³

Some of the effects of engineered armoring structures on the beach (such as scour, end effects and modification to the beach profile) are temporary or are difficult to distinguish from all the other actions that modify the shoreline. Others are more qualitative (e.g., impacts to the character of the shoreline and visual quality). Some of the effects that a shoreline structure may have on local shoreline sand supply shoreline processes can be quantified,⁴⁴ however, including: (1) the loss of the beach area on which the structure is located; (2) the long-term loss of beach which will result when the back beach location is fixed on an eroding shoreline (also known as “passive erosion”); and (3) the amount of material which would have been supplied to the beach if the back beach or bluff were to erode naturally.⁴⁵

Fixing the back beach

Experts generally agree that where the shoreline is eroding and armoring is installed, as would be the

⁴¹ ACOE, San Francisco District, 1994. Note that ACOE’s final EIS/EIR indicates that there have been differing estimates on the amount of littoral drift over the years, and concludes that annual littoral drift ranges from 250,000 to 325,000 cubic yards annually.

⁴² Ibid.

⁴³ Griggs and Best, 1991.

⁴⁴ The sand supply impact refers to the way in which the project impacts creation and maintenance of beach sand. Although this ultimately translates into beach and offshore recreational access impacts, the discussion here is focused on the first part of the equation and the way in which the seawall would impact sand supply processes.

⁴⁵ Note that the proposed seawall project includes removal of existing concrete rubble and relocation of rip-rap. The Commission has been unable to establish a history, permit or otherwise, for these materials, and ACOE declined to provide any information when requested. This information is critical to establishing a baseline against which to compare the proposed project (i.e., what portions pre-date coastal permitting requirements and/or have been permitted, and what portions not). Its omission hampers the CCMP evaluation of the proposed project (see also exhibit O). Although the existing concrete rubble and rip-rap already result in some of the types of impacts described here, the evaluation that follows does not include their impacts as baseline inasmuch as it is unclear that these materials have been recognized, and the most conservative tact in light of this uncertainty is to not include them as a baseline sand supply condition. In any case the strewn concrete rubble does not have nearly the magnitude of sand supply impact as a seawall.



case here, the armoring will eventually define the boundary between the sea and the upland. On an eroding shoreline fronted by a beach, the beach will be present as long as some sand is supplied to the shoreline and the beach is not submerged by sea level rise. As erosion proceeds, the beach also retreats. This process stops, however, when the retreating shoreline comes to a revetment or a seawall. While the shoreline on either side of the armor continues to retreat, shoreline retreat in front of the armor stops. Eventually, the shoreline fronting the armor protrudes into the water, with the mean high tide line fixed at the base of the structure. In the case of an eroding shoreline, this represents the loss of a beach as a direct result of the armor.

In addition, sea level has been rising slightly for many years. In the Monterey Bay area, the trend for sea level rise for the past 25 years has been an increase resulting in a 100 year rate of nearly 1 foot per 100 years.⁴⁶ Also, there is a growing body of evidence that there has been a slight increase in global temperature and that an acceleration in the rate of sea level can be expected to accompany this increase in temperature. Some shoreline experts have indicated that sea levels could rise as much 3 feet by the year 2100.⁴⁷ Mean water level affects shoreline erosion several ways and an increase in the average sea level will exacerbate all these conditions. On the California coast the effect of a rise in sea level will be the landward migration of the intersection of the ocean with the shore. On a relatively flat beach (such as that found at the base of the bluffs here), with a slope of 40:1, every inch of sea level rise will result in a 40-inch landward movement of the ocean/beach interface.⁴⁸ This, too, leads to loss of the beach as a direct result of the armor.

These effects are also known as “passive erosion.” ACOE has not quantified this impact. Rather, the Corps indicates that “no substantial passive erosion is likely to occur as a result of the project.”

The Commission has established a methodology for calculating the long-term loss of public beach due to fixing the back beach, this impact being equal to the long-term erosion rate multiplied by the width of bluff which has been fixed by a resistant shoreline protective device.⁴⁹ Using this calculation, the impact would translate in this case to 1,110 square feet per year.⁵⁰ To convert the 1,110 square foot loss of beach per year into the volume of sand necessary to restore the beach commensurately in cubic yards, coastal engineers use a conversion value representing units of cubic yards per square foot of beach.⁵¹ In

⁴⁶ NOAA, National Ocean Service.

⁴⁷ Gary Griggs, as quoted in “Living on the Edge; a saga of seawalls, who wants them, who doesn’t, and the fate of California’s disappearing coastline” by Bruce Willey (in the “Good Times,” February 27 – March 5, 2003 issue). Mr. Griggs is quoted as also indicating that some estimates show that it will be higher than three feet, some lower, but that the three feet rise by 2100 is “probably the median.”

⁴⁸ In other words, a one-inch rise in sea level can result in over 3 landward feet of dry sandy beach loss. For the 3 feet rise estimated by 2100, that would translate into a 120 foot landward movement of the wet-dry intersection on a beach sloped at 40:1.

⁴⁹ The area of beach lost due to long-term erosion (A_w) is equal to the long-term average annual erosion rate (R) times the number of years that the back-beach or bluff will be fixed (L) times the width of the bluff that will be protected (W). This can be expressed by the following equation: $A_w = R \times L \times W$.

⁵⁰ That is, 1 foot per year multiplied by 1,100 feet for the seawall, and by 10 feet for the transition rip-rap proposed at the downcoast end (between the seawall and the O’Neill residence) equals 1,110 square feet per year.

⁵¹ This conversion value is based on the regional beach and nearshore profiles, and overall characteristics. When there is not regional data to better quantify this value, it is often assumed to be between 1 and 1.5, the idea being that to build a beach seaward one foot, there



this case, the Commission has not been able to establish an actual conversion factor for the Pleasure Point vicinity. However, if a 1.0 conversion factor is used (i.e., the low end of the spectrum of values typically assumed by coastal engineers), a conservative estimate of the cubic yard equivalent of 1,110 square feet per year can be calculated. Using the sand conversion factor of 1.0, the direct loss of beach due to fixing the back beach (i.e., “passive erosion”) translates into a yearly impact of 1,110 cubic yards of sand due to the seawall project.

Encroachment on the Beach

Shoreline protective devices such as the seawall proposed are all physical structures that occupy space. When a shoreline protective device is placed on a beach area, the underlying beach area cannot be used as beach. This generally results in a loss of public access as well as a loss of sand and/or areas from which sand generating materials can be derived. The area where the structure is placed will be altered from the time the protective device is constructed, and the extent or area occupied by the device will remain the same over time, until the structure is removed or moved from its initial location, or in the case of a revetment, as it spreads seaward over time. The beach area located beneath a shoreline protective device, referred to as the encroachment area, is the area of the structure’s footprint.

Using the Commission’s long-standing methodology, the proposed project would cover an area of sandstone and beach area that would otherwise contribute to the local sand supply during winter beach conditions, and/or that would otherwise be occupied by beach sand part of the year. In this case, the seawall’s base would occupy roughly 7,700 square feet of beach space, and the rip-rap at the downcoast O/Neill transition would occupy an additional 750 square feet, for a total of 8,450 square feet of encroachment.⁵² Using the conversion discussed above, this translates into a one-time impact of 8,450 cubic yards of sand.

Retention of Potential Beach Material

If natural erosion were allowed to continue (absent the proposed armoring), some amount of beach material would be added to the sand supply system (associated with both the immediate Pleasure Point area and the larger littoral cell) from the bluffs. The volume of total material that would have gone into the sand supply system over the lifetime of the shoreline structure would be the volume of material between (a) the likely future bluff face location with shoreline protection; and (b) the likely future bluff location without shoreline protection. Since the main concern is with the sand component of this bluff material, the total material lost must be multiplied by the percentage of bluff material which is beach sand, giving the total amount of sand which would have been supplied to the littoral system for beach deposition if the proposed device were not installed. The Commission has established a methodology for

must be enough sand to provide a one-foot wedge of sand through the entire region of onshore-offshore transport. If the range of reversible sediment movement is from -30 feet msl to +10 feet msl, then a one-foot beach addition must be added for the full range from -30 to +10 feet, or 40 feet total. This 40-foot by 1 foot square parallelogram could be built with 1.5 cubic yards of sand (40 cubic feet divided by 27 cubic feet per cubic yard). If the range of reversible sediment transport is less than 40 feet, it will take less than 1.5 cubic yards of sand to rebuild one square foot of beach; if the range of reversible sediment transport is larger than 40 feet, it will take more than 1.5 cubic yards of sand to rebuild one square foot of beach.

⁵² The seawall footprint area is based on a 7 foot width (5 foot of scour apron and 2 feet of wall thickness) extending from the bluff, and an 1,100 foot length. The transition rip-rap would occupy a similar area measuring roughly 30 feet by 25 feet.



identifying this impact.⁵³

ACOE estimates this impact to be 431 cubic yards of sand per year for the seawall between 32nd and 36th Avenues. However, they have used fairly low values for estimating the sand content of the bluff materials, namely 46% for the terrace deposits and 10% for the Purisima. ACOE indicates that other estimates for the project area are up to 60% for the terrace deposits.⁵⁴

Using the Commission's methodology, using the upper limit of 60% sand content for the terrace material and 10% sand content for the Purisima, using a thickness ranging from 20' to 22' for the terrace materials and from 6' to 10' for the Purisima, using the estimated 1-foot per year average annual bluff retreat rate applied across the 1,100 foot length of the seawall and the 10 foot wedge of transition rip-rap at its downcoast need (a total armor length of 1,110 feet), the bluffs would provide between 518 and 584 cubic yards per year (or an average of 551 cubic yards per year). Given the range in composition of the terrace materials and in measured sand content, this average estimate of 551 cubic yards per year can be considered an upper limit, and the Corps' estimate of 46% sand content and 431 cubic yards per year can be considered the lower limit, of impact to sand supply from cutting off this portion of bluff material to the littoral supply.

Sand Supply Impacts Conclusion

The proposed project would be expected to result in quantifiable sand supply impacts totaling 10,111 cubic yards the first year and 1,661 cubic yards per year thereafter.⁵⁵ If ACOE's identified 50 year

⁵³ The equation is $V_b = (S \times W \times L) \times [(R \times h_s) + (1/2hu \times (R + (R_{cu} - R_{cs})))]/27$. Where: V_b is the volume of beach material that would have been supplied to the beach if natural erosion continued (this is equivalent to the long-term reduction in the supply of bluff material to the beach resulting from the structure); S is the fraction of beach quality material in the bluff material; W is the width of property to be armored; L is the design life of structure (50 years assumed per ACOE, though its lifetime can also be considered indefinite) or, if assumed a value of 1, an annual amount is calculated; R is the long term average annual erosion rate; h_s is the height of the shoreline structure; h_u is the height of the unprotected upper bluff; R_{cu} is the predicted rate of retreat of the crest of the bluff during the period that the shoreline structure would be in place, assuming no seawall were installed (this value can be assumed to be the same as R unless the Applicant provides site-specific geotechnical information supporting a different value); R_{cs} is the predicted rate of retreat of the crest of the bluff, during the period that the seawall would be in place, assuming the seawall has been installed (this value will be assumed to be zero unless the Applicant provides site-specific geotechnical information supporting a different value); and divide by 27 (since the dimensions and retreat rates are given in feet and volume of sand is usually given in cubic yards, the total volume of sand must be divided by 27 to provide this volume in cubic yards, rather than cubic feet).

⁵⁴ Foxx, Neilsen and Associates (FNA) estimated that the sand component was 50%, but provided no basis for that estimate (Page 4, FNA, 1998). FNA states, "According to Hicks (1985) and Best (1990), sand grains less than 0.18 mm in diameter move offshore and do not remain on the beach. We estimate that the terrace deposits contain about 50% sand greater than 0.18 mm in diameter." For a project further downcoast, Benumof and Griggs proposed a similar 0.18 mm diameter cut-off for sand that remains on the beach. Since 0.25 mm to 0.125 mm is the range for fine sand and most of the sand on the Santa Cruz beaches is medium to coarse, the 0.18 mm diameter cut-off seems like a valid size range to consider. Also, for the site further down coast, Benumof and Griggs found that the sand content of the terrace material was 60%. That may be due to the site specific conditions at the Capitola location since that site was adjacent to a stream and the earlier site could have been subject to more over wash and sedimentation than the area of East Cliff from 32nd to 36th. The Corps has not provided its coring or sediment analysis so there is no way to verify or contradict their finding that the terrace material, as tested, is 46% on average. Since they note that the percentage of sand varies widely in grain size, that could explain the difference between their average and the results from Benumof and Griggs' 1999 work.

⁵⁵ That is, 8,450 cubic yards due to beach area encroachment the first year, 1,110 cubic yards due to passive erosion the first year and every year thereafter, and 551 cubic yards due to retention of beach materials the first year and every year thereafter.



project life time frame is used, this totals 91,500 cubic yards.⁵⁶ Although relatively small on a yearly basis in comparison to annual littoral drift (at least after the first year of impact), these impacts are not eliminated and constitute impacts for purposes of Section 30235. It is also important to acknowledge the potential cumulative impact of this loss given that bluff sediments in this area may provide approximately 20% of the total sand supply to the cell. The Applicant has not proposed any mitigation for these impacts. Without compensating mitigation, the project is thus inconsistent with the fourth test of Section 30235, and Section 30235 does not require Commission approval (or concurrence in this format) of the project. The Commission therefore concludes that ACOE's proposed seawall is inconsistent with the provisions of Section 30235 of the Coastal Act to protect (and mitigate impacts to) sand supply. Because it has not mitigated these impacts, it is also inconsistent with the provisions of Section 30233(a).

That said, if the Corps were to reduce any sand supply impacts to the degree feasible (for example, by eliminating rip-rap at the downcoast end as feasible – see also access and visual findings that follow), and to agree to provide mitigation, the consistency flaw could be corrected.⁵⁷ Note that mitigation typically required by the Commission for such direct sand supply impacts have been in-lieu fees and/or beach nourishment. With regards to beach nourishment, a formal sand replenishment strategy can introduce an equivalent amount of sandy material back into the system to mitigate the loss of sand that would be caused by a protective device. Obviously, such an introduction of sand, if properly planned, can feed into the Santa Cruz littoral cell sand system to mitigate the impact of the project. However, there are not currently any existing beach nourishment programs directed at this beach area, and despite requests, ACOE has not provided a robust analysis of what such a program may entail, including the potential benefits of it. Absent a comprehensive program that provides a means to coordinate and maximize the benefits of mitigation efforts in the area now and in the future, the success of such piecemeal mitigation efforts is questionable.

As an alternative mitigation mechanism, an in-lieu fee is oftentimes used by the Commission when in-kind mitigation of impacts is not available. In situations where ongoing sand replenishment programs are not yet in place, the in-lieu sand mitigation fee is deposited into an account until such time as an appropriate program is developed and the fees can then be used to offset the designated impacts. Recent estimates to deliver beach quality sand to Santa Cruz beaches are roughly \$25 a cubic yard. For the 10,111 cubic yards the first year and 1,661 cubic yards per year thereafter, such a fee would translate to \$252,775 the first year and \$41,525 per year for the life of the project; if a 50 year design life is presumed (and disregarding inflation if it were to be applied as a lump sum now), this would total a fee of \$2,287,500 over the first 50 years of the project.

Part of the reason that a sand replenishment program is not in place in this area is that there has not been a comprehensive analysis of the parameters of such a program, nor the methods for implementing it.

⁵⁶ Using the 50 year time frame presupposes that the seawall would be removed in 50 years. There is no proposed mechanism to require such removal in the future. So while 50 years is used for quantification purposes, the impact is likely to last longer and be greater than that.

⁵⁷ For example, if the inconsistency was that the existing development was set back such a distance that it was not in danger, this would constitute a fatal 30235 consistency flaw because there would be no way that the project could address this inconsistency.



This is in part because such impact mitigation discussion often arises in the context of individual private applications where the projects lack the degree of impact that would necessitate such analysis, and where applicants lack the wherewithal to evaluate, establish, and implement such a program regionally. In this case, though, the proposed project's sand supply impacts are large, it is a public project, and ACOE is an appropriate evaluation entity. Furthermore, the Corps must mitigate the identified sand supply impacts for a project to be found consistent with the sandy supply requirements of Section 30235 and 30233(a).

In sum, as submitted, the Commission can and does determine that the proposed project is inconsistent with the sand supply requirements of Section 30235 and 30233(a). If the Corps were to choose to submit a new consistency determination, then this Section 30235 and 30233(a) flaw would need to be corrected. In tandem with the need for better information on a sand supply strategy to address potential danger from erosion (as described in the preceding alternatives analysis section), the Commission believes that the best way of addressing any unavoidable sand supply impacts at this location is by a the formation of a Task Force⁵⁸ that could evaluate the feasibility of implementing a regional sand supply program to promote beach and sand bar formation in the Live Oak beach area and Capitola (i.e., from the Santa Cruz Harbor to New Brighton State Beach). The Task Force could reference and build upon existing studies (including the Corps' 1992 and 1994 Santa Cruz Harbor area shoaling studies) and resources available from the Coastal Sediment Management Working Group (representing the Corp and the state Resources Agencies). The Task Force could, at a minimum, evaluate mechanisms (including structural, programmatic, and funding requirements) to increase the amount of sand in the shoreline sand supply system through sand import, and evaluate corrective measures to improve the transport of sand around the Santa Cruz Harbor jetties, including potential modifications to the jetties themselves. The Task Force evaluation, and implementation of its recommendations, could be funded by quantified sand supply mitigation fees (based on the Commission methodology above). See also additional information requirements in exhibit O.

5. Allowing Shoreline Armoring Conclusion

The Commission is unable to conclude whether the proposed project is fully consistent with Section 30235 (and thus also 30233(a)) to the maximum extent practicable because the information submitted to date is insufficient to be able to robustly evaluate the existing condition in relation to the danger from erosion, and the degree to which potential alternatives would provide protection for development with lesser impacts to resources. From the information submitted, the project is inconsistent with the sand supply mitigation requirements of Sections 30235 and 30233(a), and may be inconsistent with other 30235 and 30233(a) requirements.

If the Corps intends to continue to pursue a project at this location through submittal of a new consistency determination, then that consistency determination will need to provide additional information and analysis on threat evaluation, alternatives, and sand supply to be able for the

⁵⁸ Such a Task Force would preferably include representatives from responsible agencies (including, at a minimum, the Corps, Santa Cruz County, Coastal Commission, and Monterey Bay National Marine Sanctuary) and selected interest groups (including, at a minimum, the Surfrider Foundation, Surfers' Environmental Alliance, Oceans Conservancy, Save our Shores, and the Sierra Club).



Commission to review it for compliance with Coastal Sections 30235 and 30233(a) as discussed in this finding (see also exhibit O for a detailed list of additional information requirements in this regard).

C. Long Term Structural Stability and Assumption of Risk

Pursuant to Coastal Act Section 30253 (previously cited), development is to be designed, sited, and built to allow for natural shoreline processes to occur without creating a need for additional more substantive armoring. Coastal development permittees for new shorefront development thus are essentially making a commitment to the public (through the approved action of the Commission, and its local government counterparts) that, in return for building their project, the public will not lose public beach access, sand supply, ESHA, visual resources, and natural landforms, and that the public will not be held responsible for any future stability problems. Coastal Act Section 30253 requires that the proposed project assure structural stability without the need for additional armoring. The project has been designed by engineers with experience in coastal armoring projects to provide protection for 50 years or more, and ACOE indicates that thorough monitoring and maintenance activities will ensure that the seawall is maintained in its design state. The project can be found consistent with Section 30253.

D. Geologic Conditions and Hazards Conclusion

Portions of East Cliff Drive are in danger, and portions of the subsurface utilities present there are in danger, but it is not clear to what degree all of East Cliff Drive and all of the subsurface utilities are in danger (in a Coastal Act 30235 sense) at this location. More importantly, there has been an incomplete analysis of alternatives to the proposed seawall, or more appropriately a combination of alternatives, that could help to lessen any short-run danger to existing structures at this location without shoreline armoring (or with minimal armoring). Without a clear and nuanced threat evaluation, without clear project plans that show the proposed project and alternatives in relation to existing site conditions, and without a thorough alternatives analysis, though, it is not clear to what degree such alternatives would be able to increase the effective life of the setback established, protect the endangered portions of structures, protect significant on and offshore coastal resources, and ultimately be fully consistent to the maximum extent practicable with the CCMP. Thus, the Commission finds that the project is inconsistent with Sections 30233(a) and 30235 as discussed in this finding, and that if the Corps intends to continue to pursue a project at this location through submittal of a new consistency determination, then that consistency determination will need to provide additional information and analysis on threat evaluation, alternatives, and sand supply (including clear plans and presentation of the information) to be able for the Commission to review it for compliance with Coastal Sections 30235 and 30233(a) as discussed in this finding (see also exhibit O for a detailed list of additional information requirements in this regard).

B. Public Access and Recreation

1. Applicable Policies

Coastal Act Sections 30210 through 30214 and 30220 through 30224 specifically protect public access and recreation. In particular:



30210. *In carrying out the requirement of Section 4 of Article X of the California Constitution, maximum access, which shall be conspicuously posted, and recreational opportunities shall be provided for all the people consistent with public safety needs and the need to protect public rights, rights of private property owners, and natural resource areas from overuse.*

30211. *Development shall not interfere with the public's right of access to the sea where acquired through use or legislative authorization, including, but not limited to, the use of dry sand and rocky coastal beaches to the first line of terrestrial vegetation.*

30213. *Lower cost visitor and recreational facilities shall be protected, encouraged, and, where feasible, provided. Developments providing public recreational opportunities are preferred. ...*

30220. *Coastal areas suited for water-oriented recreational activities that cannot readily be provided at inland water areas shall be protected for such uses.*

30221. *Oceanfront land suitable for recreational use shall be protected for recreational use and development unless present and foreseeable future demand for public or commercial recreational activities that could be accommodated on the property is already adequately provided for in the area.*

30223. *Upland areas necessary to support coastal recreational uses shall be reserved for such uses, where feasible.*

Coastal Act Section 30240(b) also protects parks and recreation areas, such as the East Cliff Drive recreational area as well as the Pleasure Point beach and surf areas that front it. Section 30240(b) states:

30240(b). *Development in areas adjacent to environmentally sensitive habitat areas and parks and recreation areas shall be sited and designed to prevent impacts which would significantly degrade those areas, and shall be compatible with the continuance of those habitat and recreation areas.*

Finally, Section 30253 protects special recreational destination points such as the project site and offshore. Section 30253 states, in part:

30253(5). *New development shall: where appropriate, protect special communities and neighborhoods which, because of their unique characteristics, are popular visitor destination points for recreational uses.*

2. Analysis of Consistency with Applicable Policies

These overlapping Coastal Act policies clearly protect the existing East Cliff Drive recreational area, the beach, and the offshore surfing area for public access and recreation purposes, particularly free and low cost access such as that provided in abundance here.



A. Surfing

1. Surfing Background

Pleasure Point is an internationally known, world-class surfing area. “The Point” includes at least a half-dozen distinct surf breaks, each with its own unique characteristics, that provide a variety of opportunities for both novice and advanced surfers.⁵⁹ The high quality of surfing waves, and the consistently favorable surfing conditions found at Pleasure Point, make it a unique and particularly valuable recreational resource that is clearly protected by the Coastal Act Sections cited above. It is a water-oriented recreational resource of the highest magnitude that cannot be provided at inland areas, let alone duplicated along the shoreline, of which there are a finite number in California.

While surfing at Pleasure Point is popular year-round, the largest and most consistent waves occur during the fall and winter seasons. During these times, winter storms under the Aleutian Islands migrate across the Pacific Ocean into the Alaskan Gulf, creating gale force winds that generate very large ocean-going swells. As these swells travel down the west coast, the raw wave energy is groomed into sets of waves of equal height and traveling at similar speeds. In general, a distance of 1,000 nautical miles is required to groom raw storm energy into good quality surfing waves. The typical pattern of the fall and winter storms puts the Central Coast of California at an optimal distance to receive the energy of these storms in the form of well-organized surfing waves.

Equally important to the high quality surfing conditions at Pleasure Point is the configuration of the shoreline and the underwater topography. A series of points, reefs, and sandbars serve to guide and shape the waves, and cause them to break at predictable peaks that accommodate a wide range of surfing levels. The largest and fastest breaking waves peak at the up-coast portion of the Point, over rocky reef ledges, and are preferred by advanced surfers. The larger waves of the outer break transition to smaller, rolling waves further down-coast, which break over a combination of rocky shelves and sand bars, and are more suitable for beginners. On good days, a surfer can link a single ride across these various peaks for a distance of up to 200 yards.

The southwest facing direction of Pleasure Point, and its location within the northeastern portion of Monterey Bay, also contributes to the high quality surf by providing protection from predominant northwest winds and stormy ocean conditions. During the fall and winter surf season (October – March), average wave heights at Pleasure Point are five to eight feet, with larger swells of eight to twelve feet in height common. By contrast, wave heights at the more exposed west facing beaches can be twice that of Pleasure Point, with much rougher conditions that attract only the most experienced surfers. The cleaner, more manageable conditions at Pleasure Point that result from its protected location and the refraction of waves as they travel further into Monterey Bay, make it one of the most popular and consistent surfing breaks in all of California, and it is well known throughout the surfing world. When conditions are ideal it is not uncommon to see upwards of 150 or more surfers in the water along Pleasure Point.

⁵⁹ For example, Sewer Peak, First peak, Second Peak, 38th, et cetera.



Attesting to the significance of surfing at Pleasure Point is the existence of three surf schools, and a large number of industries, shops, and visitor-serving establishments oriented to surfing located within a few miles. Several surf competitions are held each year at Pleasure Point, and many Santa Cruz surfers, who got their first experiences at the Point, have gone on to become internationally recognized professional surfers. It is a destination for water sports enthusiasts from around the world, as well as a gathering place where local and visiting surfers congregate to check the surf and share surf stories. Pleasure Point is at the hub of the Santa Cruz surfing community, and a unique and valuable recreational asset to the State of California.

2. Impact Analysis

Several relationships have been developed to establish wave characteristics. One relationship relates wave characteristics to beach slope and wave steepness.⁶⁰ A second relationship compares the wave vortex geometry to the orthogonal seabed gradient.⁶¹ Both these relationships correlate the shape and energy of the waves to the sea bottom, reflecting the importance of sea bottom bathymetry on wave conditions. A steep seabed gradient will produce a steep-faced wave. The alignment of the wave relative to the seabed will determine the peel angle. Face steepness and peel angle are key components to the quality of surfing waves.

There are several ways that the proposed shoreline armoring could adversely impact surfing conditions at Pleasure Point.

a. Changes in Bathymetry

Bathymetry is the measurement of water depth at various places in a body of water. As previously described, the underwater reef/rocky ledge at Pleasure Point is one of the most important physical features that result in high quality surfing waves. Sand deposition is also a factor. ACOE's final EIS/EIR used field observations and aerial photographs to identify current surf locations. In general, the reef breaks at Pleasure Point are 400 to 600 feet offshore. Conditions vary somewhat, but since the reef is the primary physical feature controlling the location of the break, the break does not move much beyond the zone of influence of the reef feature, except when sand bars form. The influence of sand bars on the waves at Pleasure Point is most notable at the down-coast peaks, such as in the surfing area between 36th and 38th Avenues.

The affect of bathymetry on the shape of breaking waves at Pleasure Point can currently be observed at different tides. At higher tides, waves break closer to the bluff, with less steep faces. During tides greater than 6 feet, a decrease in the quality and frequency of surfing waves can be noticed at various locations within the Pleasure Point surfing area, particularly when swell size is under 6 feet.

Over the long term, the proposed seawall will influence the bathymetry at Pleasure Point by "fixing" the

⁶⁰ Called the "Iribarren number," the "surf scaling parameter," or "surf similarity parameter" by different researchers.

⁶¹ The full relationship developed by Mead and Black ("Predicting the Breaking Intensity of Surfing Waves") is: $Y = 0.065X + 0.821$, where Y is the wave vortex ratio and X is the orthogonal seabed gradient. This quasi-empirical relationship was developed through the study of 48 images from 23 different world-class surfing breaks. There were not any Santa Cruz surf breaks included in this analysis.



back beach. That is, the seawall will prevent the natural process of erosion from occurring, and thereby establish a permanent location to the coastal bluff. Under natural conditions, the bluff would be eroded by waves and would move landward over time. Using the Corps' estimated long-term erosion rate, the bluff would be expected to retreat landward approximately 50 feet over the next 50 years at this location. This would move landward the point where incoming wave energy interacts with the bluff. Thus, under natural shoreline retreat conditions, the position of wave/bluff interactions would move inland over time.

When the bluff location is fixed, the beach and foreshore will experience more frequent inundation either as sea level rises or as the beach profile erodes and deflates. The tide records for Monterey Harbor show a historic rise in mean sea level of almost 1 foot per 100 years (based on a 25 year record) but a drop in both the diurnal and mean tide ranges of 0.632 and 0.499 respectively.⁶² If this trend either continues or accelerates, water depths will deepen over time. In addition, there is a growing body of evidence that there has been a slight increase in global temperature and that an acceleration in the rate of sea level can be expected to accompany this increase in temperature. As previously indicated, some shoreline experts have indicated that sea levels could rise as much 3 feet by the year 2100.⁶³ On the California coast the effect of a rise in sea level will be the landward migration of the intersection of the ocean with the shore. On a relatively flat beach (such as that found at the base of the bluffs here), with a slope of 40:1, every inch of sea level rise will result in a 40-inch landward movement of the ocean/beach interface;⁶⁴ for the 3 feet rise estimated by 2100, this translates into a 120 foot landward movement of the wet-dry intersection on a such a beach. If the bluff is fixed, and the beach area is relatively narrow (such as at the project site), the beach will disappear relatively quickly.

When combined with an armored shoreline, this increase in water depth can have an adverse long-term impact on surfing conditions. With or without the proposed seawall, water over the reef will be deeper more of the time. However, without a seawall, other wave-tripping features inland of the current break, such as rocky ledges of higher elevation or sandbars, will continue to result in breaking waves over the shallow waters that form as the bluff naturally erodes. In comparison, the installation of a seawall will prevent the surf break from adapting to increased sea level, because in the absence of the landward migration of the bluff, areas of shallow water will continuously decrease. Under this situation, breaking waves would occur closer and closer to shore, and eventually, over the long-term, become unsurfable.

It is difficult to predict the time frame under which these impacts will occur, and the Commission is not aware of a rigorous and robust model for doing so. In comparison to normal fluctuation in tidal elevations that change water depths by a range of 2 to 8 feet on a daily basis, the current rate of sea level rise (1 foot per 100 years) may not appear significant. However, given the diminishing wave quality currently observed during extreme high tides, it is possible that even minor changes in sea level will begin to influence the quality surf during high tides exceeding 4 feet in the near term (e.g., within 10 to 20 years), and that more significant impacts will occur over a longer time frame. Any increase in the

⁶² Also NOAA, National Ocean Service.

⁶³ Ibid, Griggs 2003.

⁶⁴ In other words, a one-inch rise in sea level can result in over 3 landward feet of dry sandy beach loss.



current rate of sea level rise (for example, the aforementioned estimated three-fold increase by the year 2100) will cause these impacts to occur more rapidly.

b. Wave Reflection

It can also be anticipated that the proposed seawall will, over the long term, change the interaction between waves and the bluffs, either by changing the reflection location of the wave, or by changing the amount of energy that is reflected. Reflection of wave energy can change the offshore wave patterns and diminish the quality of surfing waves. Often referred to as “backwash,” reflected wave energy causes waves to break in unpredictable ways, and disrupts the clean line and peel of waves that make Pleasure Point a particularly high quality surf break.

In the short term, the concrete seawall, since it is proposed to “hug” the existing bluff contour and is not proposed as a poured in place monolith, should reflect and dissipate waves in a similar fashion to the existing sandstone bluffs; waves will respond similarly when striking either a concrete face or a sandstone face. Over time, however, the seawall will lead to an increase in wave reflection and backwash because, as discussed above, it will prevent erosion of the bluff face. Halting the process of erosion will prevent the bluff from retreating away from areas of high wave energy. Since the amount of reflected wave energy is proportional to the amount of wave energy that hits the bluff, more wave energy will be reflected off a bluff that is fixed in a particular location than a bluff that is allowed to erode away from areas of high wave energy. The reflection of wave energy off the seawall would reduce the overall length of a ride and reduce the zone where it is safe and enjoyable to surf.

In addition, the protective device may, over time, alter the alignment of the shoreline, by causing accelerated erosion at the up-coast and down-coast endpoints of the seawall. These changes in shoreline configuration could also affect the orientation and direction of reflected wave energy, resulting in the adverse impacts to surfing discussed above.

c. Hazards

The fixing of the back beach, and the resulting long-term reduction in beach area, will also pose hazards to surfers and beach goers. In particular, the increase in water depth and wave reflection discussed above will make it more difficult to enter and exit the beach and surfing areas, particularly during higher tides. It is challenging to safely exit the water during high tides and large swells at the present time. While the project will improve this situation in the short term by adjusting the location of the existing stairways and removing rubble, the problem will be exacerbated over the long term as a result of increased wave energy in the nearshore environment.

3. Surfing Conclusion

In the short term, surfing impacts are unlikely to be significant. The seawall will result in the loss of some sand in the short term (see sand supply finding preceding) that provides unknown sand bar formation and reef-filling (and that causes waves to break), but the effect of this singular short term impact on surfing is difficult to model and its effect equally difficult to isolate and quantify.



However, ACOE's conclusion that the proposed seawall will have a minimal effect on surfing over the long-term is not supported by substantial evidence.⁶⁵ There is little technical support for this conclusion. It can be expected that fixing the existing bluff in its current location, rather than allowing it to naturally erode, will have an adverse long-term impact on surfing, for the specific reasons detailed in this finding.

As with all armoring that "fixes" the bluff location on an eroding shoreline, and where sea level continues to rise, it is expected that this seawall will eventually result in the loss of the beach and a reduction in quality and/or elimination of all or portions of the offshore surfing area. It is unknown as to how long this process will take (and ACOE did not evaluate such long-term impact). Sea level rose approximately one foot over the past one hundred years in the Monterey Bay area. At that rate, or at a higher rate (that could result from global warming), such as the estimated 3 foot rise by the year 2100, the beach area will disappear relatively quickly (as it is not large to begin with), but the length of time until the surf break is noticeably impacted is less clear. As seen with daily tidal fluctuations, a foot or two difference in sea level can have a tremendous impact in surfing wave quality. By installing the seawall, the space available for the beach to move landward, and for substitute wave "tripping" areas to be established, is reduced. At some point in the future, the water level is expected to be at such a depth that waves do not break until very close to shore, significantly diminishing, and potentially eliminating, the high quality surfing opportunities currently available. ACOE did not evaluate this long-term impact and, although it is not a matter of whether it will happen but when, it is difficult to predict with certainty when this would occur.

While the extent and time frame of these impacts is difficult to predict, the importance of the Pleasure Point surf break as a water-oriented recreational area of international significance necessitates that every effort be made to prevent and mitigate any adverse impacts that may occur. ACOE did not evaluate such impacts, did not provide ways to reduce such impacts, did not provide means to monitor such impacts, and did not provide means to mitigate for any portion of such impacts that were unavoidable. These significant surfing impacts were dismissed by ACOE as insignificant.

The Commission therefore concludes that ACOE's proposed seawall is inconsistent with the provisions of Section 30210, 30211, 30213, 30220, 30221, 30240(b), and 30253(5) of the Coastal Act to protect (and mitigate unavoidable impacts to) surfing and, by extension, the recreational destination that is Pleasure Point. Moreover, if the Corps intends to continue to pursue a project at this location through submittal of a new consistency determination, then that consistency determination will need to provide additional information and analysis on long term surfing impacts and ways of addressing them (in addition to the information identified in the preceding finding) for the Commission to be able to review it for compliance with the Coastal Act sections discussed in this finding (see also exhibit O for a detailed list of additional information requirements in this regard).

B. Beach Access

⁶⁵ Although Commission staff requested such an analysis in NOP and DEIS comments (see exhibits I and J), the FEIS does not provided information or analysis on this point.



1. Beach Area Rubble and Rip-Rap Removal

The project would provide for the removal of the estimated 2,800 to 4,800 cubic yards of concrete rubble in the beach area, and some of the estimated 1,200 cubic yards of rip-rap (i.e., some would be retained and placed at the downcoast end of the seawall, but the precise amount has not been identified). This rubble and rip-rap currently blocks public access to a large portion of the beach area here, and increases dangers to users of this area. Some of the concrete rubble includes rusty pieces of jagged metal rebar in it. These materials are dangerous and public access-inhibiting generally, and can be particularly dangerous when they are at or just below sea and/or sand levels and not readily apparent to beach and ocean users. Thus, the removal of the materials would offset some of the coverage impacts due to the proposed seawall and would be a substantial benefit to public beach and recreational access, but it is not clear to what extent it can be used as mitigation for project-related impacts in this case.⁶⁶ In any event, the removal of (some of) the rip-rap and the rubble would be a significant beach and offshore recreational access improvement and benefit associated with the project.

2. Scour Apron

As described in the preceding finding, the seawall and related rip-rap would occupy roughly 8,450 square feet of beach area. Of this, approximately 2,950 square feet (the rip-rap area and the 2 foot thick wall area itself) would not be available for recreational access at any time, long or short term. The remainder, 5,500 square feet, is the area where the 5 foot scour apron would be constructed.

The five-foot scour apron would be expected to be covered with beach sand during summer elevations, and scoured during the winter. Because this beach area is primarily a through access area (at least during lower tides, and at other tides after the rubble and rip-rap are removed) as opposed to a “sitting” beach, the impact of the scour apron on through lateral access would be expected to be minimal because it would be constructed flush with the bedrock platform. The apron would introduce a decidedly unnatural concrete finish into the natural walkway area – an area that otherwise would be naturally undulating Purisima Formation outcrops. This impact would degrade the beach recreational experience, contrary to the access policies cited above, and would degrade visual resources when exposed (see also visual resource findings that follow).

There are two ways of addressing this issue that could be used to achieve Coastal Act consistency if a seawall were otherwise approvable under the Coastal Act.

The first is to remove the scour apron from the project. The apron has been designed so the reflected wave energy will scour the concrete base and not the more erodible Purisima Formation sandstone. The

⁶⁶ As previously detailed, the Commission has been unable to establish a history, permit or otherwise, for these materials, and ACOE declined to provide any information when requested. This information is critical to establishing a baseline against which to compare the proposed project (i.e., what portions pre-date coastal permitting requirements and/or have been permitted, and what portions not). Its omission hampers the CCMP evaluation of the proposed project (see also exhibit O). In other words, it is not clear whether removing these materials rectifies a coastal permit violation (and would be required in any case, whether or not the ACOE seawall project were before the Commission) or it is a mitigation that can be applied to proportionately reduce identified project impacts. Physically, it will reduce beach area impacts, but it is not clear whether this reduction is already and otherwise required, or rather whether it can be used to offset impacts of this proposed project.



apron is not necessary in this regard, but there will likely be more scour-based destruction of the Purisima (at the base of the seawall) if the apron is not provided at the base. Absent the apron, the seawall footing itself might need to be extended deeper into the Purisima to account for the added scour at its base (i.e., without the apron, there may be up to a foot or more of additional scour into the Purisima, requiring another foot or more of footing depth). The scour at this location is an estimate inasmuch as the rubble has been keeping this Purisima covered for a long time. It may be chopped up and ready to scour with the first few storms, or it may be strong and competent and able to withstand wave forces for a few years before exhibiting a scour trench. If the beach recovers regularly, the scour trench would fill in with sand, but there would remain a depression in the Purisima once the sand moved offshore. The depression/scour hole would deepen in successive years and with successive wave action and abrasion.

The second option is to allow the scour apron, but require it to be sculpted, textured, and colored to mimic the Purisima platform into which it would be embedded and made flush at the top.

In this case, it would seem prudent to choose the option of retaining the scour apron and requiring its surface treatment to be modified to mimic the remainder of the wall. This conclusion makes particular sense in light of the use of the beach here for lateral as opposed to beach going access.

Thus, although the scour apron as submitted would be inconsistent with the Coastal Act policies listed above, there are project modifications that could readily rectify this inconsistency should a seawall otherwise be approvable. If the Corps intends to continue to pursue a project at this location through submittal of a new consistency determination, then any seawall component of it would need to be modified so that the scour apron at the base of the seawall was constructed flush with the top of the Purisima platform, and its surface colored, contoured, and textured to match the Purisima Formation in which it was embedded.

3. Rip-Rap

ACOE proposes to use some of the existing rip-rap from the project area to act as a transition between the proposed seawall and the downcoast revetment fronting the O'Neill property. The volume that would be used in this regard has not been specified, but as detailed in the preceding findings, this rip-rap would occupy approximately 750 square feet of beach and lateral recreational space, blocking through access at higher tides, potentially to and from the stairway that would be installed near 36th Avenue, degrading the beach recreational experience contrary to the access policies cited above, and degrading visual resources when exposed (see also visual resource findings that follow).

Although it is proposed to front approximately 20 feet of the seawall, the transition rip-rap is not needed for scour protection fronting the seawall because the seawall includes a built-in scour apron for this purpose (as described above). It is not clear whether the rip-rap is necessary for transition, or whether the end of the wall could be reconfigured in some alternative way so as to avoid the impacts from the placement of any transition rip-rap. ACOE has not yet provided an analysis of the feasibility of different end of wall configuration that could avoid rip-rap in this area.



It appears that there are ways of addressing this issue that could be used to achieve Coastal Act consistency if a seawall were otherwise approvable under the Coastal Act. For example, a small end wall could be incorporated into the rip-rap associated with the downcoast residence, and then the end wall feathered with rip-rap where the rip-rap is all kept on the downcoast property on which the residence sits, and not located seaward of the seawall on public tideland property. In this way, the rip-rap could be confined on the property where it was permitted (i.e., the O'Neill property), excess rip-rap leading to access and scenic impacts removed, and the seawall end adequately protected against flanking.

Another option would be for the seawall to be extended to just past the downcoast residence to allow for existing rip-rap fronting the residence to be removed as well. For the O'Neill revetment, this would be a restoration resulting in a better coastal resource condition than that that is permitted now (where the rip-rap currently extends seaward onto the beach and ocean blocking and endangering recreational access, and degrading visual resources (see also visual resource findings that follow)).

These options are dependent on understanding their feasibility. The lack of feasibility information developed to date hampers the Commission's ability to make decision on this point, and to evaluate the transition rip-rap for consistency with the CCMP.

Thus, although the transition rip-rap as submitted appears to be inconsistent with the Coastal Act policies listed above, there appear to be project modifications that could readily rectify this inconsistency should a seawall otherwise be approvable. If the Corps intends to continue to pursue a project at this location through submittal of a new consistency determination, then an analysis of measures that can be taken to avoid the use of rip-rap to the maximum degree feasible at the transition of the proposed seawall to the O'Neill property rip-rap needs to be provided. At a minimum, such analysis needs to include an evaluation of options to extend a wing-wall onto the O'Neill property, and whether the O'Neill rip-rap could be removed should the wing-wall extend far enough downcoast. Again, see also exhibit O for a detailed list of additional information requirements in this regard.

4. Long-Term Loss of Beach

As previously indicated, the beach fronting the seawall is expected to disappear over time due to lack of sand supply, fixing the back beach, and rising sea levels. ACOE indicates that "the distance between the bluff and the mean low low water line (MLLW) would decrease between ten and twenty feet during the fifty-year project period." The proposed removal of the rubble and some rip-rap can help partially offset this impact, but it does not respond to the fact that this beach will be unavailable for public access at some point in the future due to the installation of the proposed seawall.⁶⁷ This is inconsistent with the Coastal Act access and recreational policies cited above.

It appears that there are ways of addressing this issue that could be used to achieve Coastal Act consistency if a seawall were otherwise approvable under the Coastal Act. One option that could be

⁶⁷ On this point, and as previously referenced, it is not clear that such rip-rap and rubble enjoys any permit status and can be used to offset such impacts.



considered to address the loss of lateral beach area over time would be to include some type of platform in the base of seawall at a height above typical tides that would provide base of bluff lateral pedestrian access. However, although this could provide a new type of lateral access, it may appear unnatural, particularly if there had to be railings for safety purposes, and it would come at the expense of additional beach/intertidal coverage to provide adequate platform width. Ultimately, this design option may not be appropriate given that blufftop recreational trail access is available at this location instead.

If the County Parkway project on the blufftop goes forward, this loss of beach area could be traded off for the enhanced recreational lateral access areas created atop the bluffs at its expense. Provided this Parkway project were to occur, and public recreational access is maximized in the Parkway project as directed by the Act, this impact could be mitigated by the access improvements of the Parkway project (see Parkway finding below). Thus, if the Corps intends to continue to pursue a project at this location through submittal of a new consistency determination, then it would need to be modified so that there were enforceable components of it that required the Parkway improvements to be constructed if these are going to be used as mitigation for project impacts.

5. Beach Access Conclusion

The Commission therefore concludes that ACOE's proposed seawall is inconsistent with the provisions of Section 30210, 30211, 30213, 30220, 30221, 30223, 30240(b), and 30253(5) of the Coastal Act to protect (and mitigate unavoidable impacts to) beach access and, by extension, the recreational destination that is Pleasure Point. Moreover, if the Corps intends to continue to pursue a project at this location through submittal of a new consistency determination, then that consistency determination will need to make changes to the project to modify the scour apron, to modify the transition at its downcoast end, and to connect the East Cliff Drive Parkway project to the ACOE project in an enforceable manner that requires the Parkway improvements to be constructed if these are going to be used as mitigation for project impacts. In addition, that consistency determination will need to provide additional information on rip-rap and rubble history and end-of-wall transition options designed to limit rip-rap in the project area (in addition to the information identified in the preceding findings) for the Commission to be able to review it for compliance with the Coastal sections discussed in this finding (see also exhibit O for a detailed list of additional information requirements in this regard).

C. Access Impacts During Construction

The project would involve the use of large equipment that would occupy East Cliff Drive and the beach and water area fronting the bluffs between 32nd and 36th Avenues, and generally intrude and negatively impact the aesthetics, ambiance, serenity, and safety of the recreational experience during the expected half year of construction. Any future maintenance episodes would lead to similar construction impacts, but to less expected degrees. Although these construction impacts can be minimized by appropriate construction controls as proposed by ACOE, they cannot be eliminated. As indicated, the Pleasure Point area is an extremely popular beach, bluff, and surfing recreational area and project construction will not only remove beach area from being potentially used, but it will negatively impact the beach and



shoreline recreational experience by introducing construction (including large equipment, noise, etc), into a prime recreational use area. ACOE will restore all disturbed recreational areas following construction, but cleaning up one's construction mess does not compensate for the negative public access impacts over the duration of construction. In recent cases, the Commission has required compensatory mitigation for this impact.⁶⁸

Construction impacts will add to the same types of beach and surfing impacts identified above, and will also lead to loss of blufftop access during construction inconsistent with the provisions of Sections 30210, 30211, 30213, 30220, 30221, 30223, 30240(b), and 30253(5) of the Coastal Act to protect (and mitigate unavoidable impacts to) beach, surfing, and blufftop recreational access, and, by extension, the recreational destination that is Pleasure Point.

It appears that there are ways of addressing these construction issues that could be used to achieve Coastal Act consistency if a seawall were otherwise approvable under the Coastal Act.

Ultimately, if the County Parkway project on the blufftop goes forward, these construction impacts could likely be mitigated by the enhancements to blufftop recreational access associated with it. Provided this project occurs, and public recreational access is maximized in the Parkway project as directed by the Act, the construction impacts could be mitigated by the access improvements of the Parkway project (see also Parkway finding below). Thus, if the Corps intends to continue to pursue a project at this location through submittal of a new consistency determination, then it would need to be modified so that there were enforceable components of it that required the Parkway improvements to be constructed if these are going to be used as mitigation for project impacts.

D. East Cliff Drive Recreational Access – County “Parkway” Project

The County's East Cliff Drive Parkway project, although not a part of this consistency determination, is critical to understanding the case for allowing a seawall with its attendant impacts. The East Cliff Drive corridor is heavily used by the public for physical and visual coastal access, but it clearly is in need of improvements to enhance the public coastal recreational experience. This portion of East Cliff Drive is currently dangerous for pedestrians and bicyclists, offers little in the way of formal amenities, and is aesthetically cluttered. Notwithstanding these shortcomings, the East Cliff Drive corridor remains an important coastal resource primarily because of significant amount of public use, and the significant coastal vista and neighborhood ambiance afforded the public here.

The Parkway project, although only understood in a conceptual form at the current juncture,⁶⁹ would provide for substantial public improvements in the blufftop area. This Parkway project would provide for a new multi-user recreational trail, park improvements (including a restroom) at Pleasure Point Park, parking spaces, benches, landscaping, a reconstructed East Cliff Drive itself, and other related public

⁶⁸ For example, in the Podesto seawall case (3-02-107, approved August 6, 2003), a 250 foot long seawall about half the height of this one at Manresa State Beach, the permittee was required to fund \$20,000 worth of public access repairs to offset construction impacts. In that case, the construction time frame was half that expected here.

⁶⁹ The project would still need to undergo appealable CDP review at the County.



improvements. Although requested, the estimated cost of these improvements, and associated funding sources, have not been provided.⁷⁰ This funding information is extremely important for understanding project permutations and alternatives, and the degree to which they are feasible. To omit it, hampers the ability of the Commission to review ACOE's consistency determination (see also discussion of project alternatives in the geologic hazard findings earlier).

In any case, as opposed to typical armoring applications in front of the Commission, where the impacts from the armoring are all borne by the public with all benefits to private landowners, the benefits and burdens in this case are both to the public.⁷¹ The Corps has evaluated the Parkway benefits as offsetting impacts that are due to the seawall. However, the seawall and the parkway projects are not connected in a regulatory sense or in any other enforceable way (although the County is the local project sponsor for the seawall (and sharing the costs) and is also the applicant (and cost-sharer) for the Parkway improvements as well). In other words, although it is presumed that the Parkway improvements would go forward if the seawall were to go forward, there is nothing that requires that to be the case. The Commission can agree that it is appropriate to use Parkway improvements as mitigation for project impacts only if there is a clear and enforceable connection between the Parkway and the proposed seawall. In other words, if the Parkway improvements are being used to offset project impacts, then there needs to be an enforceable mechanism to ensure that they occur. None has been provided to date.

Thus, if the Corps intends to continue to pursue a project at this location through submittal of a new consistency determination, then it would need to be modified so that there were enforceable components of it that required the Parkway improvements to be constructed if these are going to be used as justification for the project and as mitigation for project impacts. In addition, clear information would need to be provided on the Parkway costs and funding sources, particularly in relation to potential project permutations and alternatives, to allow for the Commission to be able to review the consistency determination for compliance with the Coastal Act sections discussed in this finding (see also exhibit O for a detailed list of additional information requirements in this regard).

E. Water Quality and Runoff

The project does not include any measures to filter or treat project area runoff prior to its discharge from the site. Runoff that flows directly to the Monterey Bay is expected to negatively impact near shore and offshore recreational use by contributing urban contaminants to this area. This impact, and ways of addressing it, are more fully described in the ESHA and Coastal Waters finding below (that is incorporated here by reference).

The lack of water quality filtration and treatment will negatively impact surfing and beach recreational

⁷⁰ Commission staff requested this information in comments submitted on the DEIS/DEIR that covers both the Parkway project and the ACOE seawall (see exhibit J). The FEIS/FEIR declines to provide this information indicating that it "is not necessary for purposes of the environmental review, nor is it required by either NEPA or CEQA."

⁷¹ There is at least one intervening (between East Cliff Drive and the ocean) privately owned parcel that would be protected by the seawall. ACOE and the County indicate that this parcel would be acquired. Any new consistency determination would need to provide information regarding acquisition efforts. Ultimately, if the property remains private, it affects the analysis of appropriateness of a armoring project overall.



use inconsistent with the provisions of Sections 30210, 30211, 30213, 30220, 30221, 30223, 30240(b), and 30253(5) of the Coastal Act to protect (and mitigate unavoidable impacts to) beach and surfing recreational access, and, by extension, the recreational destination that is Pleasure Point. It appears that there are ways of addressing these water quality issues that could be used to achieve Coastal Act consistency if a seawall were otherwise approvable under the Coastal Act (see ESHA and Coastal Waters finding for details). Thus, if the Corps intends to continue to pursue a project at this location through submittal of a new consistency determination, then it would need to be modified so that it provided effective water quality filtration and treatment (see also exhibit O for a detailed list of additional information requirements in this regard).

F. Access and Recreation Conclusion

The project presents a difficult decision, for which there are clearly public access trade-offs. If the seawall were to be constructed, then the East Cliff Drive blufftop recreational area would be protected, but beach and surfing access would be incrementally diminished over some amount of time. If the seawall were not constructed, the East Cliff Drive blufftop recreational area would be incrementally lost in the near-term, but beach and surfing access would be unaffected by a seawall here during that time. At some point in the future (provided the regulatory framework is the same as exists today), armoring would be allowed to protect either what remains of East Cliff Drive and/or the inland residences, as required by the Coastal Act. In that scenario, and at that time in the future, similar types of armoring impacts identified in these findings (depending on the type of armoring and the specifics of the project) would be expected to occur (and continue from that point on into the long-term).

The Corps has not submitted adequate information regarding the long-term beach and surfing access impacts associated with the project, and thus the Commission's evaluation of these trade-offs is hampered. From what has been provided, and as detailed above, it is clear that there will be impacts to beach, surfing, and blufftop recreational access that are not adequately mitigated by project design or otherwise. The Commission therefore concludes that ACOE's proposed seawall is inconsistent with the provisions of Sections 30210, 30211, 30213, 30220, 30221, 30223, 30240(b), and 30253(5) of the Coastal Act to protect (and mitigate unavoidable impacts to) beach, surfing, and blufftop recreational access, and, by extension, the recreational destination that is Pleasure Point.

If the Corps intends to continue to pursue a project at this location through submittal of a new consistency determination, then that consistency determination will need to make changes to the project to modify the scour apron, to modify the transition at the downcoast end of the project, to provide for water quality filtration and treatment, and to connect the East Cliff Drive Parkway project to the ACOE project in an enforceable manner that requires the Parkway improvements to be constructed if these are going to be used as justification for the project and as mitigation for project impacts. In addition, that consistency determination will need to provide additional information and analysis on long term surfing impacts and ways to address them, rip-rap and rubble history, end-of-wall transition options designed to limit rip-rap in the project area, and clear information on project costs and funding sources, particularly in relation to potential project permutations and alternatives, (in addition to the information identified in the preceding findings) for the Commission to be able to review it for compliance with the Coastal Act



sections discussed in this finding (see also exhibit O for a detailed list of additional information requirements in this regard).

C. Visual Resources, Landform Alteration, & Community Character

1. Applicable Policies

Coastal Act Section 30251 states:

Section 30251. *The scenic and visual qualities of coastal areas shall be considered and protected as a resource of public importance. Permitted development shall be sited and designed to protect views to and along the ocean and scenic coastal areas, to minimize the alteration of natural land forms, to be visually compatible with the character of surrounding areas, and, where feasible, to restore and enhance visual quality in visually degraded areas. New development in highly scenic areas such as those designated in the California Coastline Preservation and Recreation Plan prepared by the Department of Parks and Recreation and by local government shall be subordinate to the character of its setting.*

Coastal Act Section 30240(b), previously cited, also protects the aesthetics of recreation areas such as those involved in this application. Section 30240(b) states:

Section 30240(b). *Development in areas adjacent to environmentally sensitive habitat areas and parks and recreation areas shall be sited and designed to prevent impacts which would significantly degrade those areas, and shall be compatible with the continuance of those habitat and recreation areas.*

Finally, Coastal Act Section 30253(5) protects community character. Section 30253(5) states:

New development shall where appropriate, protect special communities and neighborhoods which, because of their unique characteristics, are popular visitor destination points for recreational uses.

2. Analysis of Consistency with Applicable Policies

As previously described, the Pleasure Point project area is in a special coastal community that is a popular visitor destination point, and it is also in a significant public viewshed. The Coastal Act clearly protects these resources.

A. Background

The existing public viewshed and landform at the project site is currently degraded and aesthetically cluttered. This is due to the piles of rip-rap and rubble on the beach, the existing cribwalls in the upper



bluff in two locations, the abandoned concrete restroom along the bluffs, the exposed and cantilevered drain pipes, the temporary safety barriers at the blufftop edge, and the configuration of East Cliff Drive atop the bluff where portions of it have eroded away, plastic bollards define recreational areas, bare soils and erosion rills the edge of the bluff, and traffic barriers extend along the bluff (and indeed hang over it in some locations). See photos of the project area in exhibit A.

In spite of this, the blufftop area provides spectacular views of the ocean and, despite the many unnatural features, the majority of the bluff area remains in its natural form and contributes to the character of the area.

B. Impacts

The ACOE project will remove the abandoned restroom, cover the existing bluff (and the cribwalls) with sculpted concrete, and remove the rubble and rip-rap strewn across the beach (see also preceding finding). Although this will help improve the viewshed in part (e.g., removal of rip-rap and rubble),⁷² and although the project would be made to mimic natural bluffs, it would still introduce a concrete and artificial structure into the significant public recreational viewshed, replacing the natural landform with an artificial one. Public views from the beach, from offshore, and from East Cliff Drive would be negatively affected, and the current Pleasure Point character would be forever altered as discussed below.

1. Rip-Rap

In addition to the associated access issues discussed in the preceding finding, the rip-rap proposed to front the seawall and transition to the downcoast O'Neill property will also detract from the public viewshed. Nothing has been proposed to camouflage or otherwise mitigate for this visual degradation.⁷³ This is inconsistent with the above Coastal Act visual policies. However, as detailed in the previous access finding, there appear to be project modifications that could readily rectify this inconsistency should a seawall otherwise be approvable. If the Corps intends to continue to pursue a project at this location through submittal of a new consistency determination, then an analysis of measures that can be taken to avoid the use of rip-rap to the maximum degree feasible at the transition of the proposed seawall to the O'Neill property rip-rap needs to be provided, and any unavoidable rip-rap appropriately screened and camouflaged. At a minimum, such analysis needs to include evaluation of options to extend wing-walls onto the O'Neill property, and whether the O'Neill rip-rap could be removed should the wing-walls extend far enough downcoast. Again, see also exhibit O for a detailed list of additional information requirements in this regard.

2. Surface Treatment

⁷² Ibid. The status of these materials is unclear, and impacts whether they can be used as a mitigation tool.

⁷³ For example, in many revetment projects in coastal Live Oak and elsewhere, the Commission requires that the upper portions of these structures are completely screened from view over the life of the revetment by a dense cascading screen of native bluff plants. In some public project cases, the Commission has additionally required that the base of such structures also be completely screened and covered by sand, and the sand reestablished to screen the revetment should it be washed out in a storm (e.g., in the City of Carmel).



ACOE would sculpt, color, and texture the concrete facing of the proposed seawall to approximate natural bluffs (see photo-simulations of the seawall in exhibit C, and example of completed “soil nail” walls in exhibit E). If done correctly, such sculpting can help to camouflage large slabs of concrete, although even then, there may be a significant change to the current natural aesthetic; when done poorly, however, it just reinforces the unnatural element present in the back beach area. Because the project does not include a provision that allows the Commission to participate in the facing process, the Commission cannot conclude that the facing in this project would be successful and adequately protective of the public viewshed. For a seawall project of this scope and magnitude, the importance of the end facing result is magnified, and such direct involvement is particularly critical. The lack of such safeguards is inconsistent with the above Coastal Act visual policies.

However, there appear to be project modifications that could mitigate this inconsistency should a seawall otherwise be approvable. If the Corps intends to continue to pursue a project at this location through submittal of a new consistency determination, then this determination needs to include a sample of the expected color and texture of this seawall surface, and color photos of a similar completed project, for the review, and it also needs to provide an enforceable mechanism for ensuring the final surface treatment mimics naturally occurring bluff undulations, protrusions, color, and texture.

3. Stairways

As seen from ACOE’s visual simulations, the project would include very straight-line edges for the protruding stairway structures incorporated into the seawall, and would include very linear and visually prominent railings for them.

The stairways are meant to be integral to the seawall, and to mimic the natural bluff. However, as seen from the visual simulations, these projections include very linear edges that diminish from the intended bluff-like illusion (see exhibit C). This impact could be reduced by ensuring that the edges of these protruding stairways (as seen from offshore and the beach) appear more natural (i.e., non-linear and random), and are meant to approximate natural bluff forms.

In addition, for the stairway railings, the prominence of the railings is antithetical to the intent of camouflaging the seawall structure within the seawall that itself is meant to mimic a bluff inasmuch as natural bluffs do not typically include such linear components. To do so would detract from what illusion would be provided (see elevations of stairways in exhibit B, and photo simulations in exhibit C). These railings would need to be hidden to reduce this impact. This could readily be accomplished by hiding the railings behind a seawall facing that rises above the stairs themselves. In other words, instead of a railing extending 3 feet above the stairs that is visible from the beach and offshore, the stairs themselves would be recessed below a three foot structural element on the seaward side of the stairs into which railings can be attached.⁷⁴ The upper edge of this structural element (as seen from the beach and

⁷⁴ Note that ACOE indicates that this inset stairway design “was not selected because of the possibility of driftwood, kelp, and other beach debris becoming trapped behind such a solid feature and making the stairs inaccessible without frequent maintenance.” However, there is no data to support such a conclusion. Whether it is a metal railing or an inset stairway would have little difference on debris accumulation. Water would flow through regardless, and while small items (less than 3½ inches) would fit through the metal railings (and would not move through solid concrete), such smaller objects would wash down the stairs regardless. In addition, with vertical



offshore) must not be straight-line linear, but rather would need to better approximate natural bluff forms.

As submitted, the stairways and stairway railings lead to avoidable viewshed impacts that are inconsistent with the Coastal Act visual policies above. However, there appear to be project modifications that could readily rectify this inconsistency should a seawall project otherwise be approvable. If the Corps intends to continue to pursue a project at this location through submittal of a new consistency determination, then this determination needs to ensure that the stairways are constructed so that the exterior wall (i.e., the seaward-most wall element of the stairway) screens the stair treads and any hand rail system so that any stairway railings and/or treads are not visible from the beach or offshore but rather are located below the elevation of the seaward-most wall element (i.e., where the exterior wall is approximately 3 feet above the stairway treads), and any component of the stairways' exterior that protrudes seaward from the main seawall face needs to be contoured in a non-linear manner designed to evoke natural bluff undulations.

4. Blufftop Railing

As seen from ACOE's visual simulations, the project would include a very straight-line railing atop the bluff. ACOE indicates that these would be wood where possible, and that low-growing vegetation or setbacks should be used in place of railings where possible (i.e., where it wouldn't compromise safety). The Commission agrees that these types of measures would be appropriate. However, such measures do not compensate for the straight-line unnatural look of the blufftop rail itself (see visual simulation, exhibit C). The prominence of the railings as seen from East Cliff Drive and from the beach/surfing area is antithetical to the intent of camouflaging the seawall structure to mimic a bluff inasmuch as natural bluffs do not typically include such rigidly linear components. This railing viewshed impact could be reduced by dropping the height of the seawall by about 3 feet (below the paved recreational trail height) to allow for a bi-level pathway system with the paved recreational trail at the higher elevation, and the decomposed granite pedestrian trail at the lower elevation (nearest the bluff edge) separated by vegetation (see exhibit K for cross-section example).

This bi-level path modification would accomplish several coastal resource objectives. First, the railing's prominence in the beach and offshore viewshed would be reduced because it would be seen against the backdrop of the grade separation and vegetation that would be located between the two components of the recreational trails. Second, the view of the ocean from the paved recreational trail as well as from East Cliff Drive itself would be enhanced because the railing would be lowered out of it, thus reducing view blockage and clutter. Third, the overall extent of seawall would be reduced by 3 feet along the top of the seawall – eliminating 3,300 square feet artificial concrete "bluff" from the overall viewshed beach and offshore viewshed, and reducing its impact. Fourth, the grade separated pathway would provide better user separation to help avoid conflicts between faster moving wheeled users (in the paved portion above) and slower moving pedestrians (in the lower portion below). Fifth, the grade separation would

railings rising above the concrete, some additional debris may accumulate due to its ends being caught between the railing's vertical members and getting wedged. In any case, ACOE indicates that to change to the inset stairs "is a relatively minor design option that would not appreciably change the proposed project."



provide a more interesting character and aesthetic (than would a relatively flat Parkway area) that would be more in keeping with the Pleasure Point's community character.⁷⁵ And finally, there appears to be adequate blufftop space available to accomplish such a design change in the project area.⁷⁶

As submitted, the upper portion of the seawall and the blufftop railing lead to avoidable viewshed impacts that are inconsistent with the Coastal Act policies above. However, there appear to be project modifications that could readily rectify this inconsistency should a seawall otherwise be approvable. If the Corps intends to continue to pursue a project at this location through submittal of a new consistency determination, then this determination needs to ensure that the top portion of the seawall is reduced in height by a minimum of 3 feet (i.e., its upper elevation is 3 feet below the East Cliff Drive paved recreational path elevation) and the pedestrian path area is incorporated into the lowered bench between the seawall and the paved recreational path (again, see exhibit K for cross-section example).

5. Storm Drain Outlet Pipes and Weep Holes

The bluff viewshed is currently degraded by the presence of seven storm drain outlets extending out of the bluffs at varying angles and with varying degrees of cantilever. ACOE indicates that 4 of these would remain (actually capped and replaced in the project area), and that rip-rap (or equivalent) energy dissipation would be included. These drain pipes would significantly detract from the scenic view here. Rip-rap as energy dissipation likewise would detract from the view for some of the same reasons detailed above for rip-rap (see also elevations proposed in exhibit B).⁷⁷

The seawall would also include a series of "weep" holes through which water collected in the area behind the seawall would drain. These drain outlets would be every six feet in a straight line along the length of the seawall (see project plans). As with the railing, natural bluffs are typically anything but linear, and a series of weep holes in an equidistant straight line would appear very unnatural. Even in successfully camouflaged walls, the weep holes detract from the illusion and lessen the value of the camouflage mitigation.⁷⁸ In addition, over time, as drainage from the weep holes begins to stain the concrete at the outlet in a similar equidistant pattern, this unnatural appearance will only be heightened.

⁷⁵ Note that ACOE has indicated that this project permutation would result in drainage problems because the lower level path would require separate drainage, and would create pockets where water would collect requiring "more elaborate and costly engineering of the wall." However, there is no reason that drainage of the lower level path could not be connected into the project area drainage system. In addition, the lower level path would not create any "water pockets" that would not be created if it were not grade separated. In any case, this alternative was evaluated by the Commission's coastal engineer who did not find any compelling engineering reasons to not do it.

⁷⁶ The area between the proposed wall and the inland extent of the East Cliff Drive right-of-way varies from 40 feet at its narrowest (i.e., at a few discrete locations) up to 56 feet. The Parkway project proposes a minimum 8 foot walking path, 8 foot paved path, and a 16 foot vehicle travel lane; a total minimum width of 32 feet (see exhibit D). At the narrowest points, and bracketing the question of whether a 16 foot wide (one-way) travel lane is necessary (or could be reduced in width to accommodate other higher valued uses), this leaves approximately 8 leftover feet to provide the grade separation. This is adequate space within which to accommodate a very gently sloped and vegetated area even at the few locations where the right-of-way is narrowest.

⁷⁷ Note that the photo-simulations do not include these drain pipe outlets and rip-rap energy dissipation areas in them (see exhibit C) and are thus somewhat misleading in this regard. See also project area photos showing existing drain pipes in exhibit A.

⁷⁸ For example, the seacave plug at Cowell Beach in the City of Santa Cruz upcoast authorized by the Commission in 2002. Although the camouflaging of the surface texture to approximate a natural bluff was successful, the weep holes and linear footing detract from the ability of the camouflage to hide the unnatural concrete fill.



These impacts are inconsistent with the Coastal Act visual resource policies cited above. However, there are several ways of addressing these issues that could be used to achieve Coastal Act consistency if a seawall were otherwise approvable under the Coastal Act.

First, all drainage would need to be consolidated into the fewest number of drainage outlets feasible. This ensures that the visibility of any drain pipes and drainage is limited as much as possible. It also allows for the consolidated drainage to be filtered and treated to protect offshore water quality (see also findings that follow). Based on the length of the project area, it appears reasonable that all project area drainage could be directed to a single discharge point in the project area. Drainage from the Avenues and East Cliff Drive could be collected on the inland side of the road and directed to a single appropriate point.

Second, the reduced number of drain pipes would need to be camouflaged. This could best be accomplished by prohibiting cantilevered pipes, directing the outlet pipes to the terrace deposit/Purisima contact point, and by partially encasing the pipe outlet in sculpted concrete so that it is not visible from above or below. By allowing the drainage to exit at the “bench” contact, energy dissipation is not necessary and thus rip-rap (and its attendant impact on the viewshed) can be eliminated. Where some amount of energy dissipation would be necessary due to flow volume, such energy dissipation devices should themselves be hidden behind and/or in the sculpted concrete in the same manner as the outlet pipe itself.

And third, the weep holes would need to be unequally spaced, as well as partially encased in sculpted concrete so that they are not visible from above or below (the same as with the storm drain pipe outlets).

These options are dependent on understanding their feasibility. The lack of feasibility information developed to date hampers the Commission’s ability to make decision on this point, and to evaluate the drain pipes for consistency with the CCMP.

Thus, although the drainpipe and weephole portion of the project as submitted appears to be inconsistent with the Coastal Act policies listed above, there appear to be project modifications that could readily rectify this inconsistency should a seawall otherwise be approvable. If the Corps intends to continue to pursue a project at this location through submittal of a new consistency determination, then an analysis needs to be provided describing the feasibility of (and measures that could be taken for) consolidating all existing drainage outlets within the project area into the fewest number feasible, locating drainage outlets in the proposed seawall, including weep holes, in unequal and random locations, and where they are least conspicuous in public views (e.g., at the intersection of the Purisima Formation with the terrace deposits). Potential methods of camouflaging drainage outlets and any necessary energy dissipation devices (e.g., with overhanging or otherwise protruding sculpted concrete so that drainage outlets are not visible from East Cliff Drive above and are not visible from the beach and/or from the ocean) should be evaluated and provided in narrative and plan form (site/cross section). Any issues regarding technical feasibility should be fully described, and all underlying assumptions and reasons for arriving at the conclusions presented provided.



6. Community Character

There has been some concerns raised that the seawall and parkway projects will introduce a more “finished” facade into the Pleasure Point area that will detract from Pleasure Point’s informal and eclectic charm. This is not the first time that this concern has been raised regarding major street improvement projects in the Live Oak beach area and Pleasure Point.⁷⁹ In general, the trend in Live Oak has been towards fairly standard and linear engineered streetscape designs, with which the Commission, too, has raised concerns.⁸⁰

The project in this case would result in a more formal appearance to the East Cliff Drive corridor – both because of the Corps seawall and the County’s subsequent parkway improvements.⁸¹ The way that the seawall would be sculpted would help to offset this impact, although there are issues with it as discussed above. ACOE also plans to install native landscaping (from the Commission’s bluff plant list applicable to Santa Cruz County) that is intended to cascade over the top of the seawall, screening the top of it at least partially from view, and providing a more natural edge to the top of the wall as seen from above and below. Planting pockets within the seawall itself, although originally part of the conceptual project, have been eliminated due to concerns that they would not be accessible and difficult to maintain. This seems to be a reasonable conclusion, because it is not clear that such planting pockets could be made to work properly.

The more formal character that would be established at the bluff here is unlike the existing character of the Pleasure Point area. It is not clear to what extent project modifications could be made that would change this if a seawall were to be otherwise approvable. To the extent the wall could be made to truly mimic natural bluffs, this impact would be lessened, but it is clear that it cannot be eliminated. The seawall would intrude upon the unique characteristic of the Pleasure Point area inconsistent with the protection provided for this visitor destination point by the Coastal Act. If the Corps intends to continue to pursue a project at this location through submittal of a new consistency determination, then it should

⁷⁹ For example, the County’s Pleasure Point area road improvement project that was approved by the Commission on appeal in 2001 (A-3-SCO-00-076) involving portions of 30th, 32nd, 33rd Avenues and East Cliff Drive (roughly just upcoast of Pleasure Point Park).

⁸⁰ Note that in A-3-SCO-00-076, the Commission identified the following as more appropriate streetscape designs to be pursued in the Live Oak beach area and Pleasure Point: “informal sidewalks made of pervious materials (e.g., decomposed granite) meandering informally and curvilinearly through wider landscaped strips on one or both sides of street (separated by landscaping) to accomplish a more informal ambiance; a meandering curvilinear roadway prism (i.e., within the right-of-way) that serves to again soften the appearance of the road improvements consistent with the community aesthetic as well as to calm traffic and maintain a neighborhood scale to the improvements; diagonal parking bays with street trees and landscaped bulbs-outs at uneven intervals to increase parking supply and to screen/disguise such parking at the same time; filter strips, grassy swales, and other “soft” treatment and filtration best management practices to cleanse runoff from vehicular surfaces as opposed to relying upon end-of-the-pipe engineering solutions; benches within landscape strips to provide a neighborhood scale and feel to the street; decorative street lighting; bike lanes; undergrounding of overhead utilities; and clear signage directing users to the beach, to other recreational use areas, and to parking. Such design concepts would be more in keeping with the community character, scale, and aesthetic than would be the more rigid designs proposed in which the street would be defined by a straight-line curb and gutter, a straight-line concrete sidewalk connected to the curb and gutter, standard parallel parking along the street, and end-of-the-pipe water quality control using silt and grease traps only.”

⁸¹ In terms of the Parkway improvements, they are conceptual at the current juncture. It will not be until they have completely been reviewed through a normal regulatory process, including a CDP process, that their ultimate configuration will be established. It is in that review context that their contribution to the character of the community will be evaluated, and the Commission expects its prior observations will be addressed (see also previous access and recreation finding in this regard).



identify measures that could be taken to have the seawall match the more eclectic built and natural environment of Pleasure Point, and identify Pleasure Point area mitigation that could be provided for any impacts that cannot be avoided.

7. Construction Impacts

As with access and recreation construction impacts, the project would introduce large construction equipment and activities that are antithetical to shoreline viewshed qualities during construction. The same would apply to any future maintenance episodes, although their duration would be expected to be less than the initial construction. Although these construction impacts can be minimized by appropriate construction controls as proposed by ACOE, they cannot be eliminated. Construction impacts will add to the same types of visual impacts identified above

It appears that there are ways of addressing these construction issues that could be used to achieve Coastal Act consistency if a seawall were otherwise approvable under the Coastal Act.

Ultimately, if the County Parkway project on the blufftop goes forward, these construction impacts could likely be mitigated by the enhancement of the blufftop viewshed associated with it. Provided this occurs, the construction impacts could be mitigated by the viewshed improvements of the Parkway project (see also previous Parkway finding). Thus, if the Corps intends to continue to pursue a project at this location through submittal of a new consistency determination, then it would need to be modified so that there were enforceable components of it that required the Parkway improvements to be constructed if these are going to be used as mitigation for project impacts.

C. Visual Resources, Landform Alteration, & Community Character

Conclusion

The Corps has not submitted adequate information regarding feasibility of reducing viewshed, landform, and community character impacts by project design as indicated in this finding, and thus the Commission's evaluation consistency with the applicable policies is hampered. From what has been provided, and as detailed above, it is clear that there will be impacts to the Pleasure Point viewshed aesthetic that are not adequately mitigated by project design or otherwise. The Commission therefore concludes that ACOE's proposed seawall is inconsistent with the provisions of Sections 30240(b), 30251, and 30253(5) of the Coastal Act to protect, enhance, and mitigate unavoidable impacts to the public viewshed, natural landforms, and the special community character of Pleasure Point.

If the Corps intends to continue to pursue a project at this location through submittal of a new consistency determination, then that consistency determination will need to make changes to the project to modify the rip-rap at the downcoast transition, provide additional surface treatment parameters, change stairway and stairway railing configurations, reduce the upper portion of the seawall and drop the blufftop railing, consolidate and camouflage all drainage outlets, and connect the East Cliff Drive Parkway project to the ACOE project in an enforceable manner that requires the Parkway improvements to be constructed if these are going to be used as mitigation for project impacts (as detailed above). In addition, that consistency determination will need to provide additional information and analysis of end-



of-wall transition options designed to limit rip-rap in the project area, feasibility of consolidating drainage and siting drainage outlets in a more natural patterns, options for reducing community character impacts and mitigating those that are unavoidable (in addition to the information identified in the preceding findings) for the Commission to be able to review it for compliance with the Coastal Act sections discussed in this finding (see also exhibit O for a detailed list of additional information requirements in this regard).

D. ESHA and Coastal Waters

1. Applicable Policies

The Coastal Act is very protective of sensitive resource systems such as wetlands, dunes and other environmentally sensitive habitat areas (ESHAs). Section 30107.5 of the Coastal Act defines environmentally sensitive areas as follows:

Section 30107.5. *“Environmentally sensitive area” means any area in which plant or animal life or their habitats are either rare or especially valuable because of their special nature or role in an ecosystem and which could be easily disturbed or degraded by human activities and developments.*

Almost all development within ESHAs is prohibited, and adjacent development must be sited and designed so as to maintain the productivity of such natural systems. In particular, Coastal Act Section 30240 states:

Section 30240(a). *Environmentally sensitive habitat areas shall be protected against any significant disruption of habitat values, and only uses dependent on those resources shall be allowed within those areas.*

Section 30240(b). *Development in areas adjacent to environmentally sensitive habitat areas and parks and recreation areas shall be sited and designed to prevent impacts which would significantly degrade those areas, and shall be compatible with the continuance of those habitat and recreation areas.*

Coastal Act Sections 30230 and 30231 provide:

Section 30230. *Marine resources shall be maintained, enhanced, and where feasible, restored. Special protection shall be given to areas and species of special biological or economic significance. Uses of the marine environment shall be carried out in a manner that will sustain the biological productivity of coastal waters and that will maintain healthy populations of all species of marine organisms adequate for long-term commercial, recreational, scientific, and educational purposes.*

Section 30231. *The biological productivity and the quality of coastal waters, streams, wetlands, estuaries, and lakes appropriate to maintain optimum populations of marine organisms and for*



the protection of human health shall be maintained and, where feasible, restored through, among other means, minimizing adverse effects of waste water discharges and entrainment, controlling runoff, preventing depletion of ground water supplies and substantial interference with surface water flow, encouraging waste water reclamation, maintaining natural vegetation buffer areas that protect riparian habitats, and minimizing alteration of natural streams.

Section 30233(a) states, in part:

Section 30233(a). *The diking, filling, or dredging of open coastal waters, wetlands, estuaries, and lakes shall be permitted in accordance with other applicable provisions of this division, where there is no feasible less environmentally damaging alternative, and where feasible mitigation measures have been provided to minimize adverse environmental effects, and shall be limited to the following:*

2. Analysis of Consistency with Applicable Policies

As previously described, the Pleasure Point surfing area is extremely popular. It is also part of the Monterey National Marine Sanctuary. The Coastal Act clearly protects these resources.

A. Water Quality

The project does not include any measures to filter and/or treat runoff prior to its discharge into the Sanctuary, at one of the primary recreational water use areas within the Sanctuary. The Sanctuary is home to some 26 Federal and State Endangered and Threatened species and a vast diversity of other marine organisms. As previously detailed, Pleasure Point attracts surfers from far and wide to tackle the consistent line of surf wrapping around the headland and heading downcoast to Capitola here. As such, the Commission recognizes the marine and recreational resources involved with the proposed project as sensitive coastal resources that are of high state and federal importance.

Runoff that flows directly to the Monterey Bay could negatively impact marine and recreational resources and water quality by contributing additional urban contaminants to the recreational surfing area there. Urban runoff is known to carry a wide range of pollutants including nutrients, sediments, trash and debris, heavy metals, pathogens, petroleum hydrocarbons, and synthetic organics such as pesticides. Urban runoff can also alter the physical, chemical, and biological characteristics of water bodies to the detriment of aquatic and terrestrial organisms.⁸² Such impacts would be at the expense of two of the state and nation's great treasures, the Monterey Bay and the Pleasure Point surfing area. Such impacts raise questions of consistency with the above-referenced Coastal Act policies protecting these resources.

The seawall project in front of the Commission is a major public works project involving a multi-million

⁸² Pollutants of concern found in urban runoff include, but are not limited to: sediments; nutrients (nitrogen, phosphorous, etc.); pathogens (bacteria, viruses, etc.); oxygen demanding substances (plant debris, animal wastes, etc.); petroleum hydrocarbons (oil, grease, solvents, etc.); heavy metals (lead, zinc, cadmium, copper, etc.); toxic pollutants; floatables (litter, yard wastes, etc.); synthetic organics (pesticides, herbicides, PCBs, etc.); and physical changed parameters (freshwater, salinity, temperature, dissolved oxygen).



dollar expenditure of funds. The inextricably related East Cliff Drive Parkway project is the same. It is generally incumbent upon public projects to do more for the public good, and it is particularly incumbent when such a huge expenditure of public funds is involved. In other words, it is incumbent upon the public agencies involved to fully explore options for not just meeting CCMP minimum requirements, but rather going beyond them to enhance public recreational resources and improve the public good in the long term. Opportunities to correct inadequate water quality management systems, such as that provided by this project, need to be pursued, just as non-conforming structures are required to become conforming upon redevelopment. This project will necessarily involve reconstruction of drainage facilities. It is not enough to continue to channel unfiltered and untreated runoff into one of the primary recreational water use areas within the State and the Monterey Bay National Marine Sanctuary; the resources at risk are too significant to allow for this.

Absent measures to filter and treat runoff prior to its discharge, the Commission concludes that ACOE's proposed seawall is inconsistent with the provisions of Sections 30233(a), 30230, 30231, and 30240 of the Coastal Act to protect, enhance, and mitigate unavoidable impacts to offshore recreational and habitat resources.

There are ways of addressing these water quality impacts that could be used to achieve Coastal Act consistency if a seawall were otherwise approvable under the Coastal Act.

In light of the significance of the offshore receiving water body, the runoff at this location needs to be filtered, treated, and "finished" prior to its ultimate discharge in the project area. The Commission often requires a managed "treatment train" of BMPs for this purpose. Such a train typically includes different biological and engineered BMPs for filtering and treating runoff at different points as it flows through a project area, and often includes overall active management in the project area to both maintain BMP elements of the "train" and to implement more global BMPs overall (e.g., vacuum sweeping). Typically, a finishing BMP is applied at the last stage of the train after the other BMPs have done their job (for example, a Stormwater Management Inc. *StormFilter* system or equivalent).⁸³

Thus, if the Corps intends to continue to pursue a project at this location through submittal of a new consistency determination, then it would need to include an evaluation detailing the feasibility of (and measures that could be taken for) consolidating all existing drainage outlets within the project area into the fewest number feasible, and treating and filtering all drainage (to remove typical urban runoff pollutants) prior to its discharge at the proposed seawall/bluff through the use of a water quality "treatment train" designed to maximize the water quality of output discharge. Any treatment train evaluated should be sized pursuant to the Commission's water quality standards (including 85th percentile requirements), and all supporting technical information (including brochures, technical specifications, flow calculations, etc.) and all underlying assumptions and reasons for arriving at the conclusions presented need to be provided. See also exhibit O for a detailed list of additional information requirements in this regard.

⁸³ The StormFilter system is what was required as the "finishing" units at the recent high school project in Watsonville as well as the recent Monarch Village Apartments project in Santa Cruz.



B. Intertidal Area

A portion of the seawall would be constructed in the Sanctuary intertidal area, and thus would permanently displace both State-owned tidelands and Sanctuary resources.⁸⁴ As previously detailed, such fill is prohibited by Section 30233(a), but can be allowed to the extent the more specific armoring provisions of Section 30235 (previously cited) apply. Likewise, Sanctuary intertidal area is generally considered to be ESHA by the Commission, and Section 30240 prohibits such non resource-dependent development in it. Again, such fill can be allowed to the extent the more specific armoring provisions of Section 30235 (previously cited) apply, and for the same reasons. Thus when read broadly, such fill can be allowed by the Act in certain narrowly defined circumstances. ACOE estimates the permanent intertidal habitat loss to be 3,049 square feet, and categorizes this impact as “non-significant.”

The Commission disagrees with the Corps’ significance assessment. Any fill in ESHA and coastal waters is a significant issue and impact. In this case, and as detailed in the Geologic Conditions and Hazards finding, the Commission is unable to conclude whether the proposed project is fully consistent with Section 30235 to the maximum extent practicable because the information submitted to date is insufficient to be able to robustly evaluate the existing condition in relation to the danger from erosion, and the degree to which potential alternatives would provide protection for development with lesser impacts to resources. From the information submitted, the project is inconsistent with the sand supply mitigation requirements of Sections 30235 at a minimum, and may be inconsistent with other 30235 requirements. As a result, the more specific requirement of Section 30235 does not allow for fill in this case, and the Commission concludes that ACOE’s proposed seawall is inconsistent with the provisions of Sections 30233(a) and 30240 that do not allow fill in ESHA and coastal waters for a seawall.

If the Corps intends to continue to pursue a project at this location through submittal of a new consistency determination, then that consistency determination will need to provide additional information and analysis that allows the Commission to robustly evaluate the proposed project for consistency with Section 30235, if the Commission is going to be asked to allow fill not otherwise allowed by 30233(a) and 30240 (see also previous alternatives analysis finding, and see also exhibit O). In addition, if the Act is to be read broadly to allow fill (in recognition of the 30235 requirements for armoring), then appropriate enhancements and mitigations must be provided to offset loss of this habitat and coastal water area, and the consistency determination should include a suite of mitigation options in this regard.

C. Construction Impacts

In addition to the permanent loss of ESHA, the proposed project would result in temporary negative

⁸⁴ The Corps has not yet obtained permission from both State Lands and the Sanctuary for such fill. Sanctuary regulations prohibit fill within the Sanctuary, although this prohibition can be suspended at the discretion of the Sanctuary Superintendent. The Sanctuary has submitted comments generally unresponsive of the seawall project (see Sanctuary comment letter in exhibit L), and it is not clear whether they would approve such fill or not. State Lands has not been contacted. It is possible that, in addition to general authorization, State Lands may require a lease fee. For example, in a recent case in south Santa Cruz County, State Lands recently leased coastal beach area for a revetment and wall at Pelican Point (Pajaro Dunes). In that case, the cost to the applicant to lease the property from State Lands for a one-year period was \$58,370. The cost of any lease needs to be factored into any alternatives analysis feasibility questions (see also alternative analysis findings preceding).



impacts to surrounding ESHA and beach from construction activities. The beach/intertidal construction zone at the base of the bluffs would occupy roughly half an acre. During the roughly six to seven months of construction activities, the resource values of the affected area would be reduced and/or eliminated. Construction noise, lights, vibration, and overall activities and human presence will also be expected to adversely affect listed (e.g., southern sea otter and California brown pelican) and unlisted species and their habitat inside and adjacent to the construction zone established. Furthermore, although the direct construction impacts themselves would be expected to end when the construction activities themselves ended, the effect of such construction in and adjacent to ESHA on the short-term productivity of the affected habitat areas could be felt for many years. In other words, the reduced habitat area productivity during the construction period would not be expected to correct itself instantaneously when construction ended, and its effects may linger for some time, affecting habitat values until previous productivity levels have been reestablished. In addition, the amount of time necessary for such a reestablishment of habitat value also represents lost productivity in and of itself (because this time period when the habitat areas might otherwise be thriving would not be available as a foundation for encouraging habitat values here). Thus, not only will there be the construction period direct and indirect affects, but a “hangover” period of reduced habitat productivity as the habitat recovers over time.

These impacts can be minimized by appropriate construction methods and habitat monitoring before and during construction (as are already a part of the ACOE project), but they cannot be eliminated entirely. Construction impacts will add to the same types of water quality and intertidal impacts identified above inconsistent with the provisions of Sections 30233(a), 30230, 30231, and 30240 of the Coastal Act to protect, enhance, and mitigate unavoidable impacts to offshore recreational and habitat resources.

If the Corps intends to continue to pursue a project at this location through submittal of a new consistency determination, then it would need include appropriate enhancements and mitigations to offset these temporary construction impacts to the habitat and coastal water area. It may be that some mitigation could be provided by water quality enhancements, as detailed in the preceding finding.

D. ESHA and Coastal Waters Conclusion

The Commission therefore concludes that ACOE’s proposed seawall is inconsistent with the provisions of Sections 30230, 30231, 30233(a), and 30240 of the Coastal Act to protect, enhance, and mitigate unavoidable impacts to ESHA and coastal waters. If the Corps intends to continue to pursue a project at this location through submittal of a new consistency determination, then that consistency determination will need to make changes to the project to enhance water quality (as detailed above), provide mitigation for unavoidable fill impacts, include evidence (and outcome) of State Lands and Sanctuary coordination, and provide a clear alternatives analysis (as detailed in the Geologic Conditions and Hazards finding) for the Commission to be able to review it for compliance with the Coastal Act sections discussed in this finding (see also exhibit O for a detailed list of additional information requirements in this regard).

E. Cumulative Impacts



Coastal Act Section 30250(a) addresses cumulative impacts, stating in part as follows:

Section 30250(a). *New residential, commercial, or industrial development, except as otherwise provided in this division, shall be located...where it will not have significant adverse effects, either individually or cumulatively, on coastal resources. ...*

Shoreline armoring has significant negative impacts on coastal resources, as detailed in the preceding findings. In particular, and perhaps most far reaching, these structures halt the natural process of shoreline erosion and are expected to lead to the loss of beach and offshore recreational resources over the very long term (see previous findings). In this case, ACOE has not attempted to quantify this project's contribution to these types of cumulative impacts, and has concluded that these types of cumulative impacts would not be significant in this regard. There is little technical support for this conclusion.

It has become common practice to contend that the impacts of individual projects are negligible because the structure being proposed is small in relation to the coastline, or its impacts individually can be addressed in some manner. This phenomenon has been described as the 'tyranny of small decisions' as summarized by Gary Griggs, James Pepper and Martha Jordan (*California's Coastal Hazards: A Critical Assessment of Existing Land-Use Policies and Practices*). They observe:

[decisions to approve shoreline protective devices] are usually made on a project-by-project basis, they tend to be evaluated independently, without any systematic consideration of the aggregate or cumulative effects either within or among jurisdictions. Within such a decision-making context any given project can be viewed as small and thus easy to rationalize in terms of approval. Cairns (1986) calls this endemic failure to take into account the aggregate effects of environmental management 'the tyranny of small decisions.'

The cumulative effect of this seawall when considered in relation to other armoring in the Pleasure Point and immediately adjacent vicinity is that, over time, beaches in this area will be lost, and surfing areas will disappear. Mitigations can be imposed on armoring projects to reduce such impacts, but mitigation for the long-term impacts to the public both as a result of the individual project and the overall cumulative effect of it together with all the other armoring along this stretch of coast are more difficult. Some of this long term impact was "inherited" by the people of the state due to the fact that much of this stretch of coast was already armored to a certain degree, when the coastal permitting requirements of Proposition 20 and the Coastal Act were instituted in the early 1970s. With the sea level continuing to rise, and the shoreline continuing to erode, it is expected that the beach fronting these properties, like all California beaches on which armoring is located and on which the back-beach has thus been effectively "fixed" in location, will eventually disappear over time. The State has not to date completely come to grips with this phenomena.

The Commission concludes that ACOE's proposed seawall is inconsistent with the provisions of Section 30250(a) of the Coastal Act to not significantly adversely affect shoreline sand supply, beach access, surfing access, blufftop access, public views, natural landforms, ESHA, coastal waters, and the special community character of Pleasure Point (as detailed in the preceding findings). Moreover, if the Corps



intends to continue to pursue a project at this location through submittal of a new consistency determination, then that consistency determination will need to provide additional information and analysis on such cumulative impacts and ways of addressing them (in addition to the information identified in the preceding findings) for the Commission to be able to review it for compliance with the Coastal Act sections discussed in this finding (see also exhibit O for a detailed list of additional information requirements in this regard).

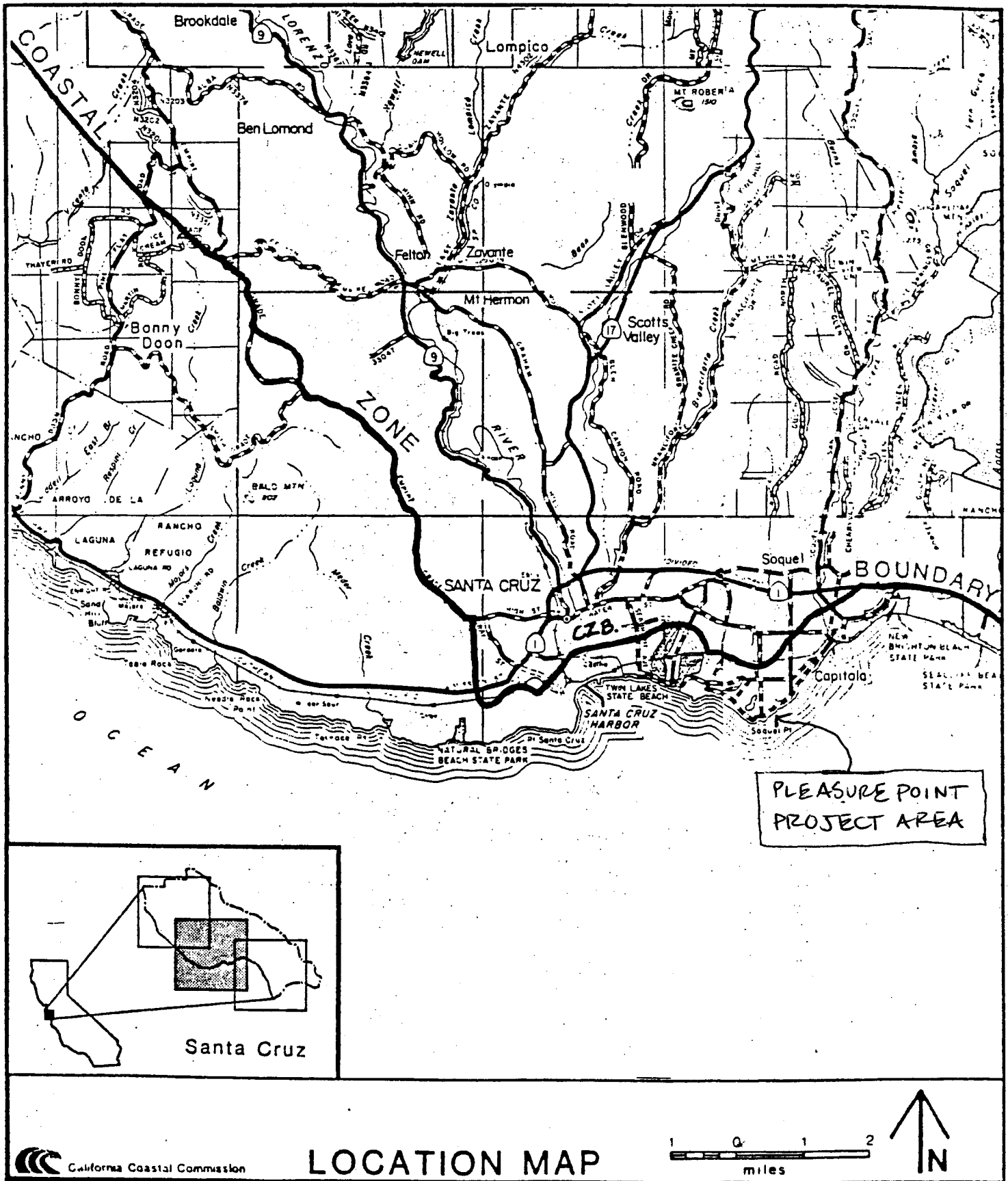
F. Objection Determination Conclusion

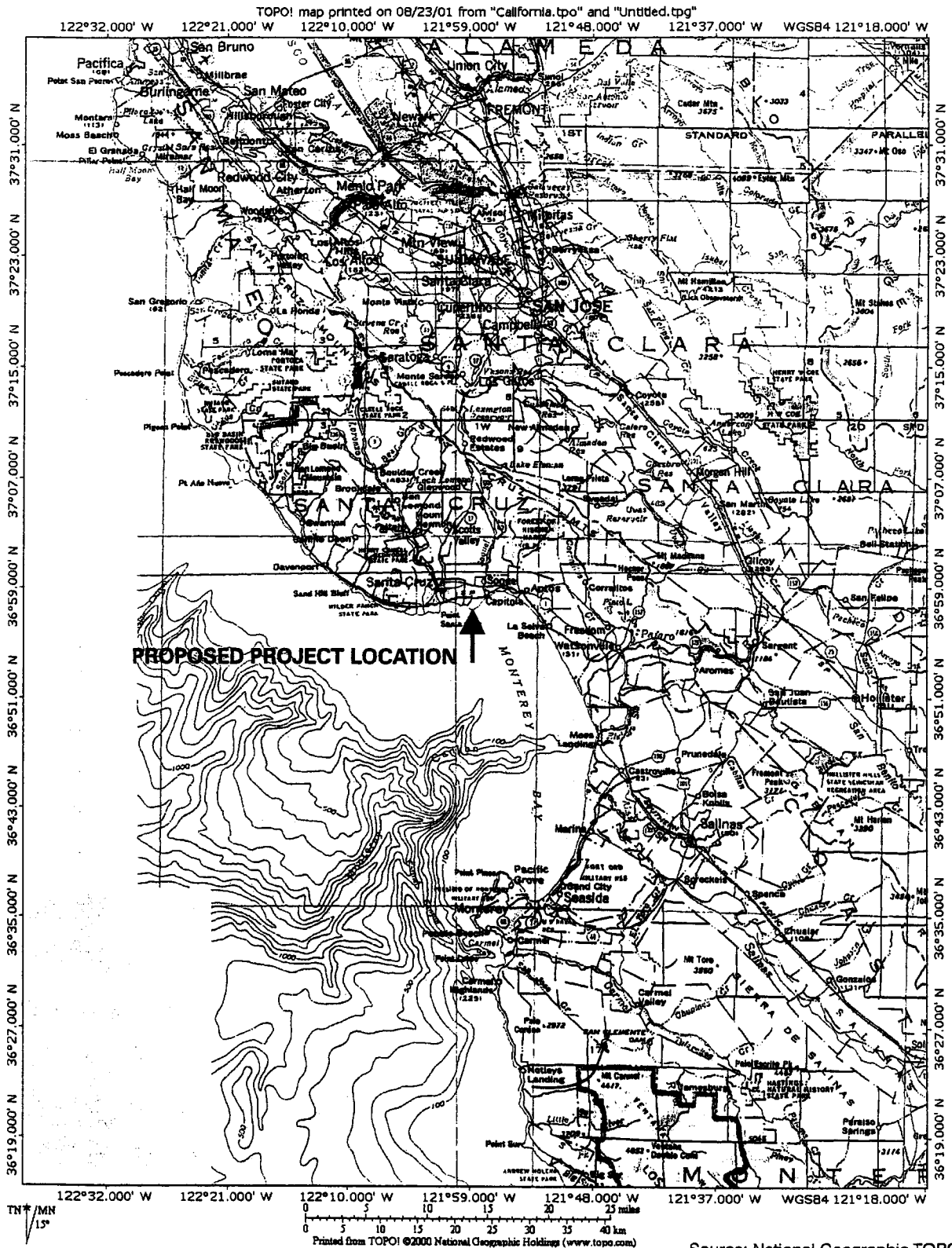
The Commission is unwilling to make a decision on a seawall project of this magnitude without adequate information to be able to fully understand the project site in relation to the proposed project and potential alternatives. The lack of comprehensive threat evaluation and alternatives analysis makes it unclear to what degree various non-seawall alternatives may make less or more CCMP sense at this location. Any project eventually approved here needs to protect any endangered structures while also having the least impact on coastal resources, and commensurately mitigating any impacts that cannot be avoided.

Pleasure Point and the Live Oak beach area as a whole are important recreational assets for Live Oak residents, other County residents, and visitors to the area. The site includes a portion of the largest marine sanctuary in the nation, and a surfing resource of State and worldwide significance. This project area is clearly a very special place, with valuable and irreplaceable resource value. The proposed seawall represents a significant expenditure of public monies for a project that would change this area for the foreseeable future, and lead to significant long and short term negative coastal resource impacts. Good planning and public policy dictate that decisions not be made here without a clear and thorough assessment and presentation of available alternatives, and the degree to which each protects endangered structures and responds to other CCMP resource issues and impacts. Moreover, as a public project, it is incumbent upon the public agencies involved to fully explore these issues, and to also fully explore options for not just meeting CCMP minimum requirements, but rather going beyond them to enhance public recreational resources and improve the public good in the long term.

The Commission finds that ACOE's consistency determination lacks sufficient information to conclusively determine overall if the project is fully consistent to the maximum extent practicable with the CCMP, and finds that the project is not otherwise fully consistent to the maximum extent practicable with the enforceable policies of the CCMP because the information that has been submitted shows it to be inconsistent with the CCMP. The Commission objects to ACOE consistency determination number CD-021-03.







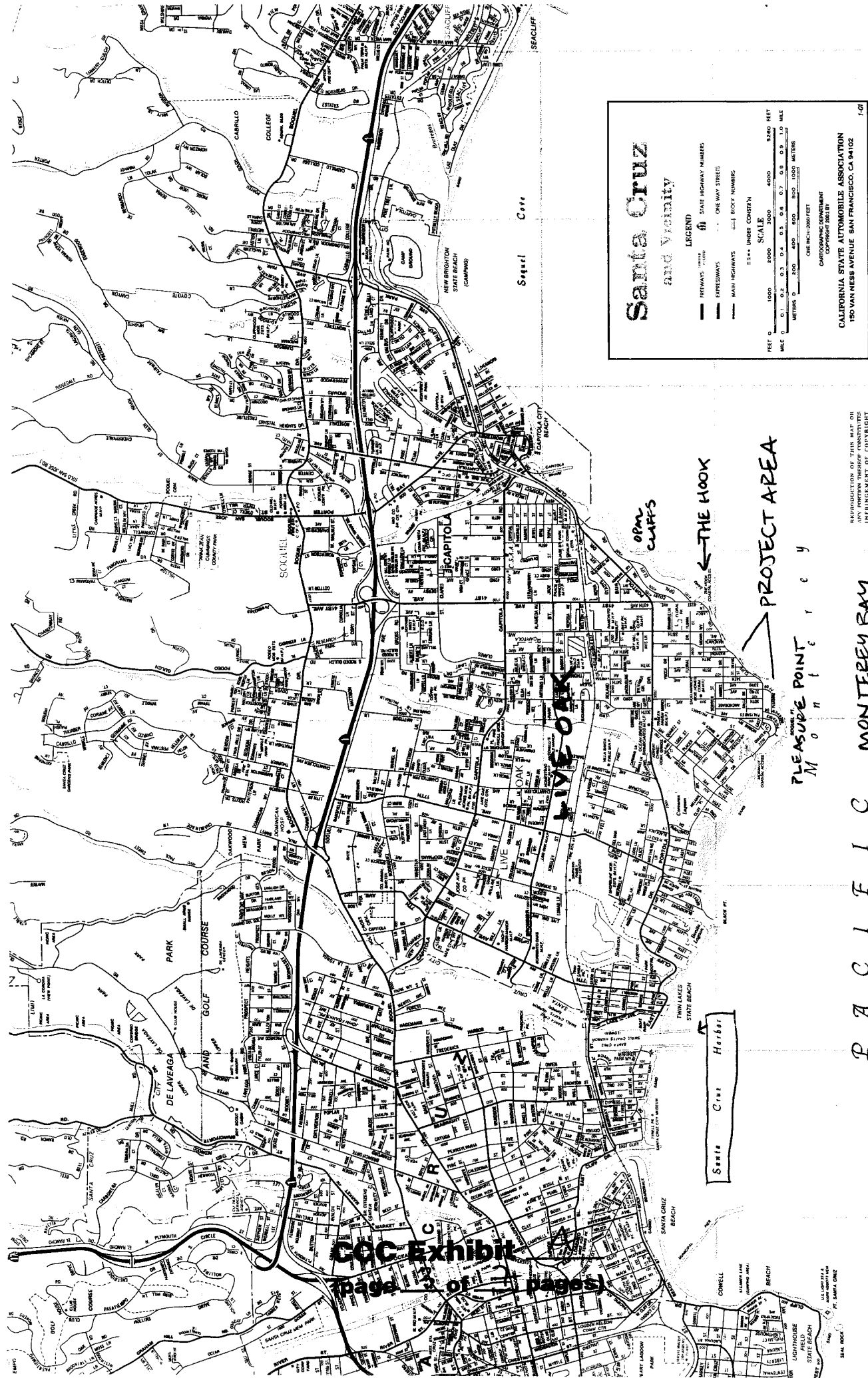
The proposed East Cliff Drive Bluff Protection and Parkway Project is midway between Santa Cruz and Capitola in Santa Cruz County, California. It is approximately 75 miles south of San Francisco, on the north shore of Monterey Bay.

Regional Location Map

Santa Cruz, California

CCC Exhibit A
(page 2 of 7 pages)

Figure 1-1

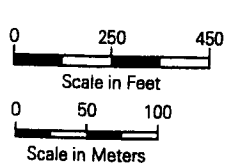
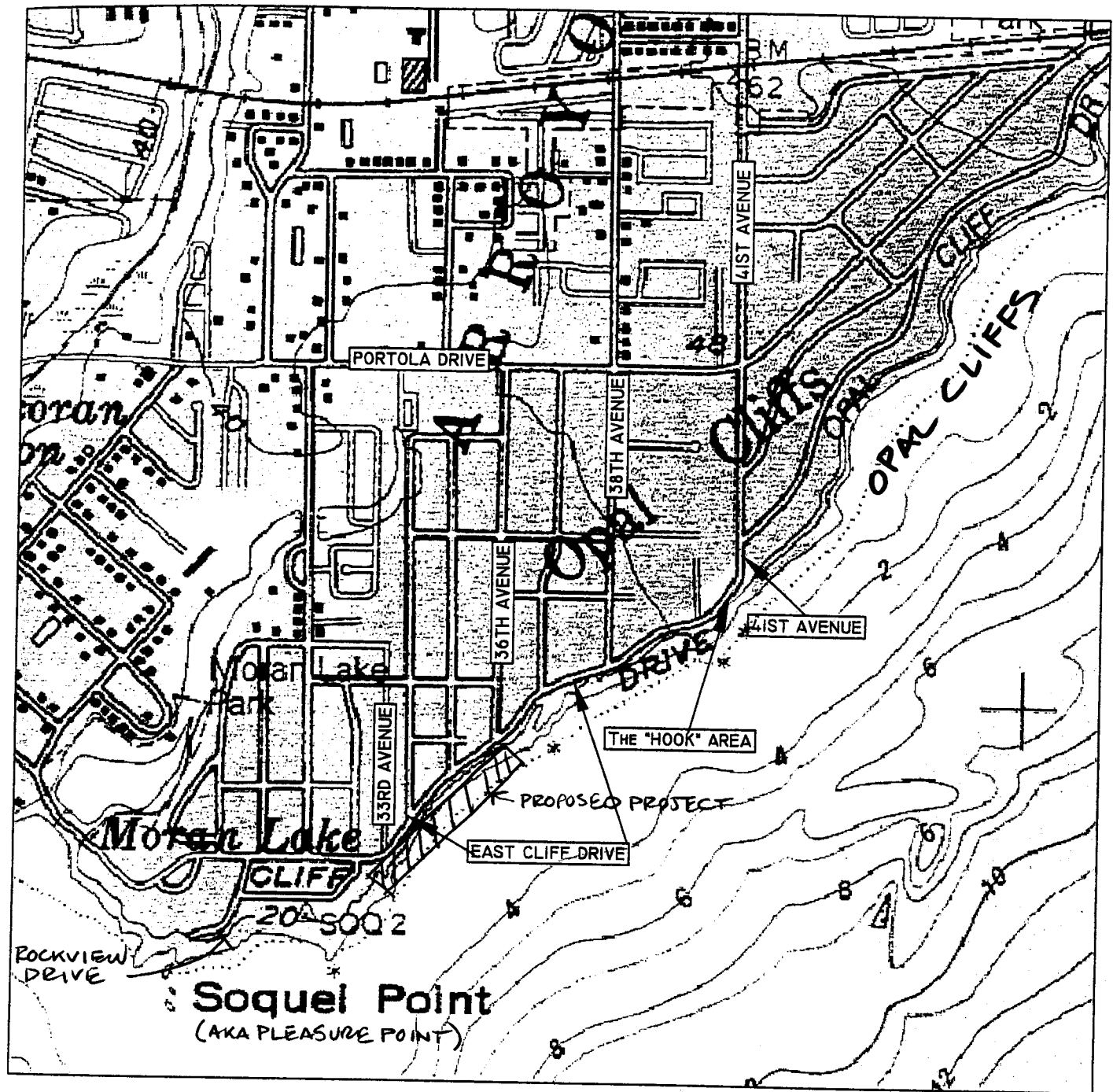


COC Exhibit (page 3 of 2 pages)

PROJECT AREA
PLEASURE POINT
M 0 n i c y

P A C I F I C MONTEREY BAY

5 6 7 8 9 10 11 12



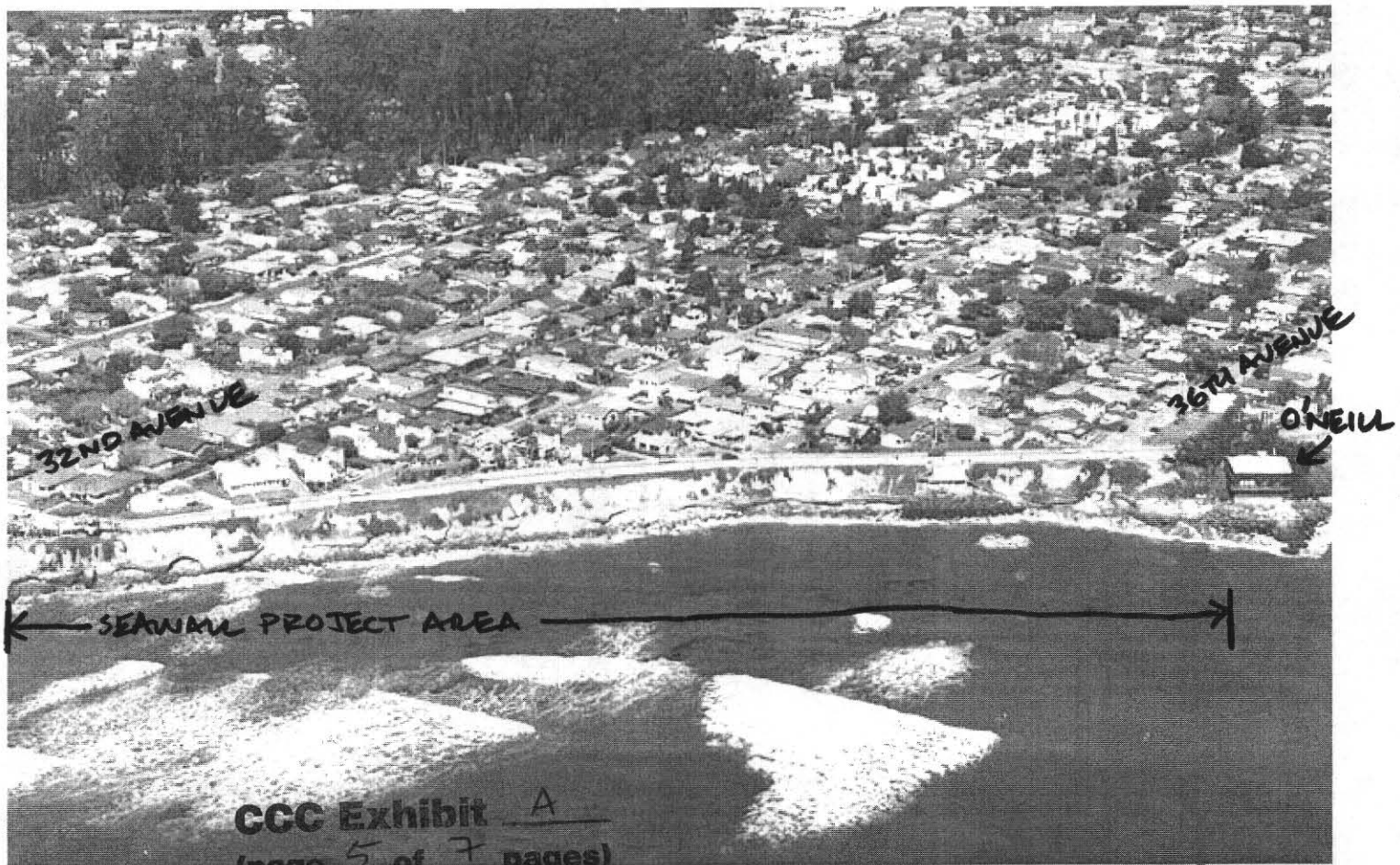
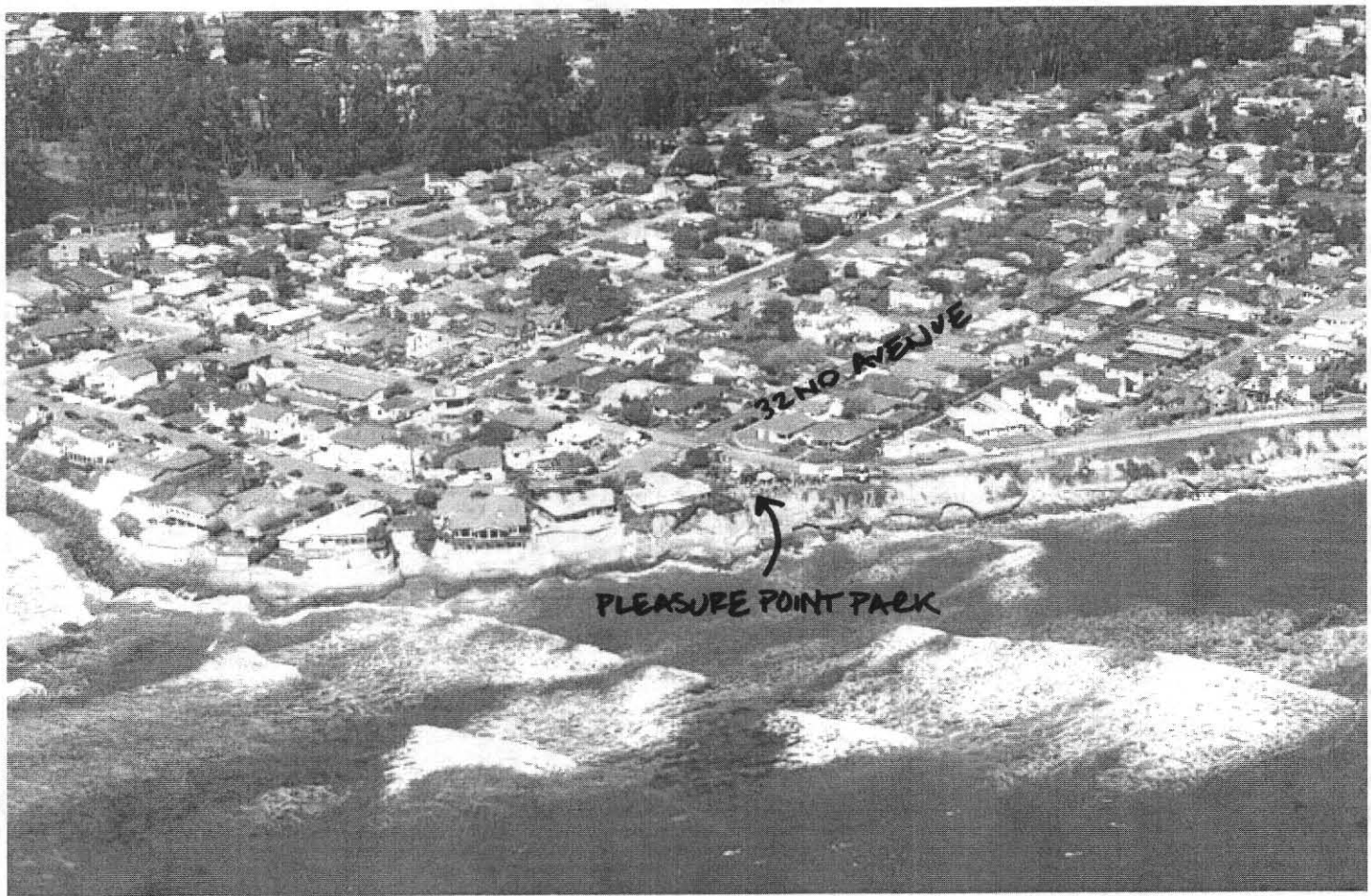
Source: USGS Soquel Quadrangle 1954, rev. 1994

The proposed project involves constructing the engineered bluff protection structures in two locations: one from 33rd Avenue to 36th Avenue, and the other near the end of 41st Avenue at "The Hook." The second part of the work consists of constructing roadway, pedestrian, and multi-use pathway improvements from 32nd Avenue to 41st Avenue.

Project Area

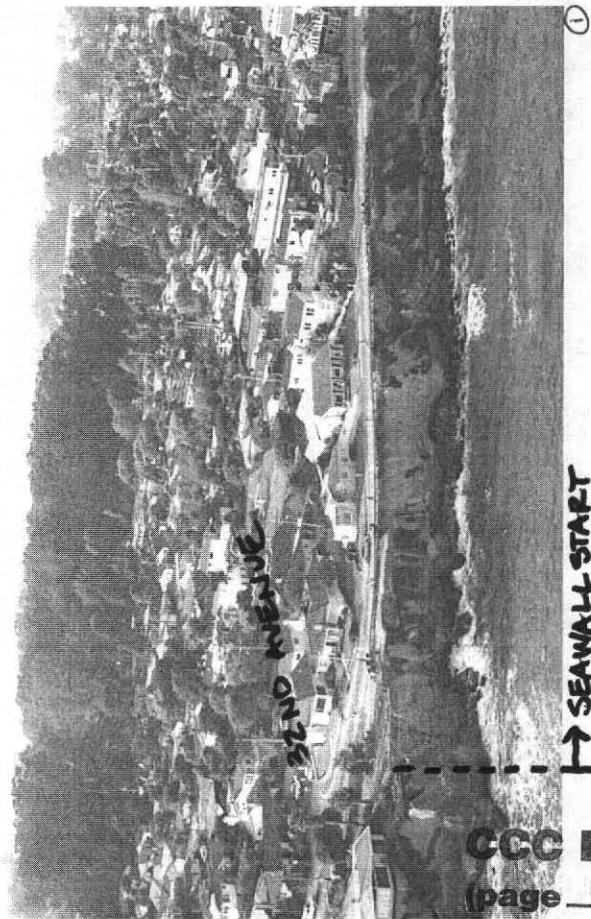
Santa Cruz, California

CCC Exhibit A
(page 4 of 7 pages)



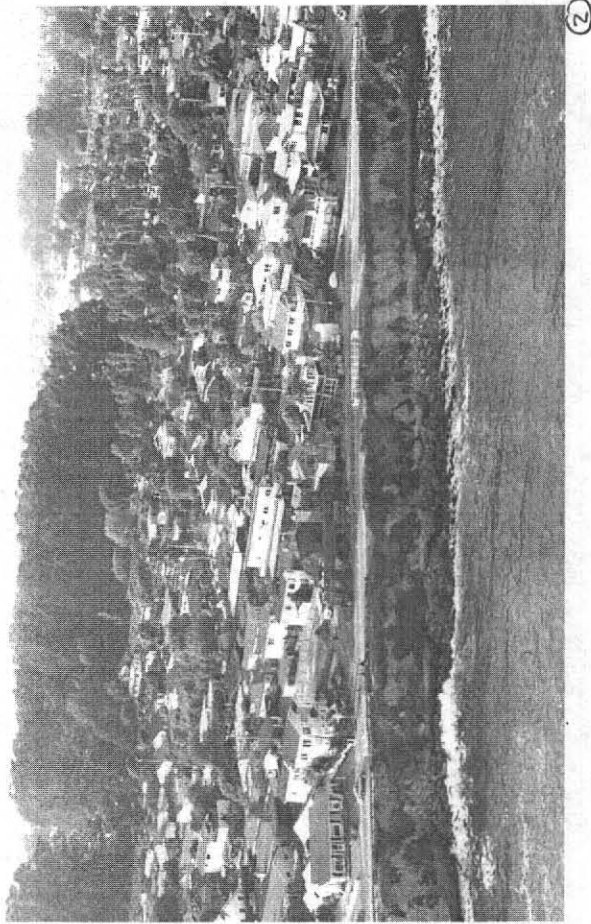
CCC Exhibit A
(page 5 of 7 pages)

PHOTO SOURCE: CALIFORNIA COASTAL RECORDS
PROJECT, PHOTOS 645 & 646, 3/16/2002.

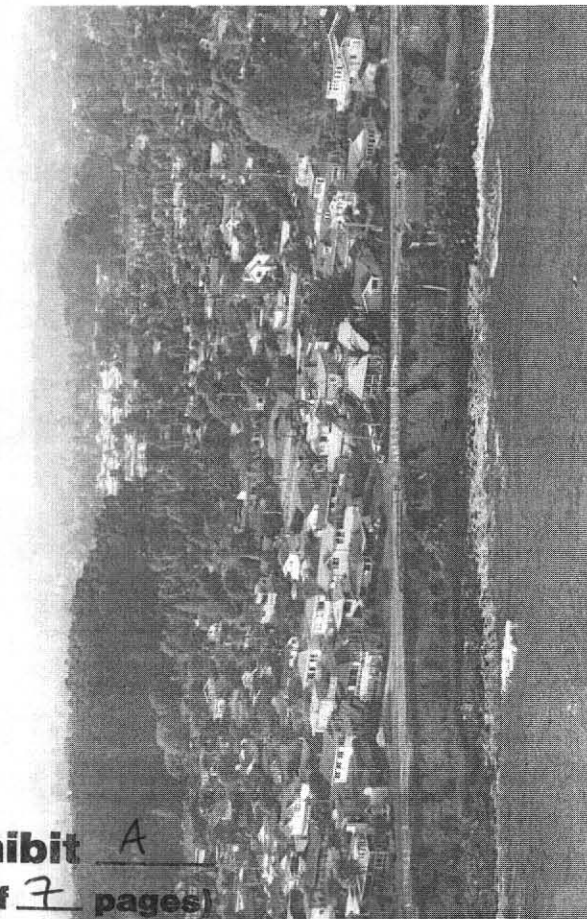


①

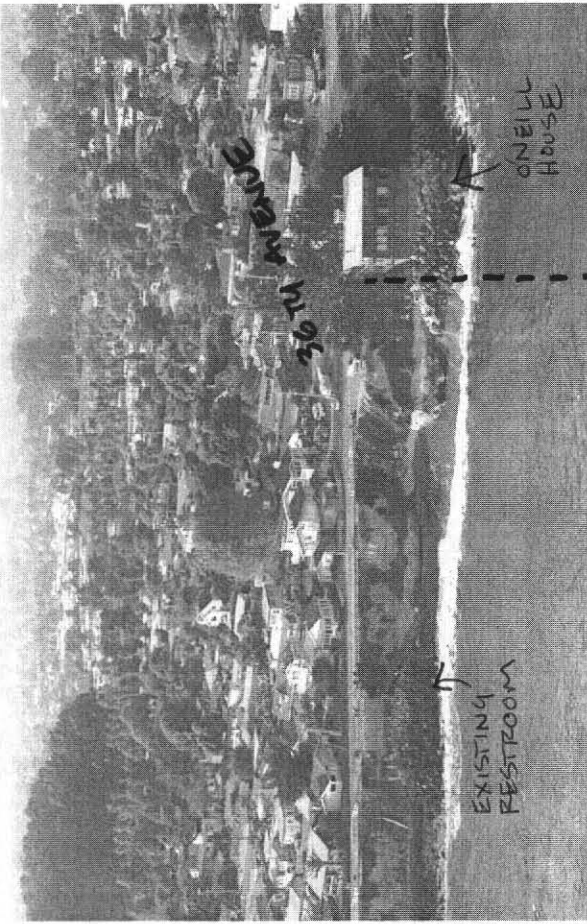
SEAWALL START



②



③



④

PROJECT AREA BETWEEN 32ND AND 36TH AVENUES

1	2	3	4
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PHOTO SOURCE: CALIFORNIA COASTAL RECORDS PROJECT, PHOTOS 6660-6663, 9/30/2002



CCC Exhibit A PLEASURE POINT SURF AREA
(page 7 of 7 pages) AS SEEN FROM EASTCLIFF DR.

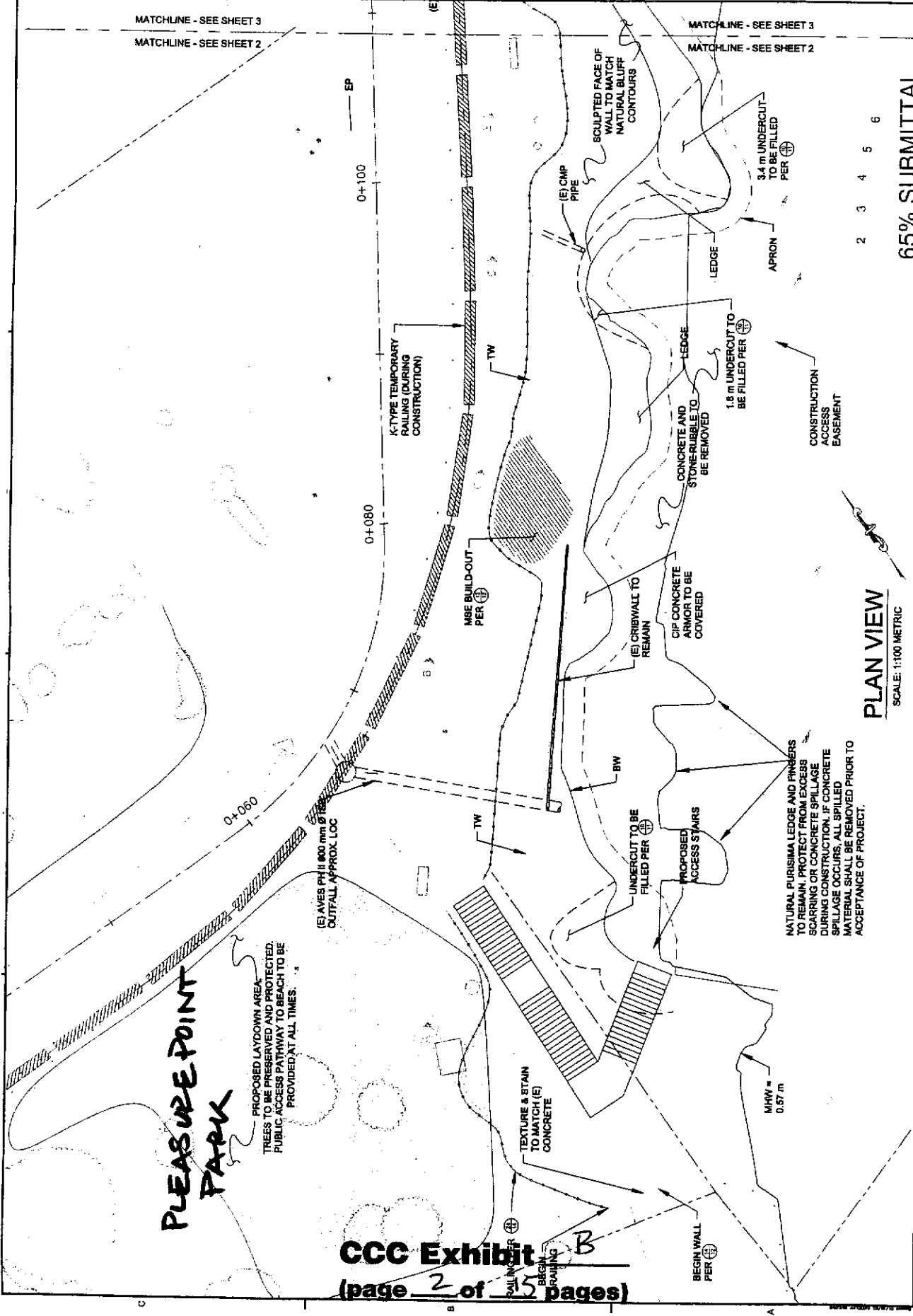


DATE	DESCRIPTION	BY	CHECKED

PROJECT NO.	17-000000-0000000000
PROJECT NAME	REPAIRS TO THE EAST CLIFF DRIVE
DATE	01/15/15
SCALE	1" = 100'
DESIGNED BY	
CHECKED BY	
APPROVED BY	

EAST CLIFF DRIVE
COASTAL BLUFF STABILIZATION
SITE PLAN

Sheet
reference
number
2



PLEASURE POINT PARK

CCC Exhibit
(page 2 of 5 pages)

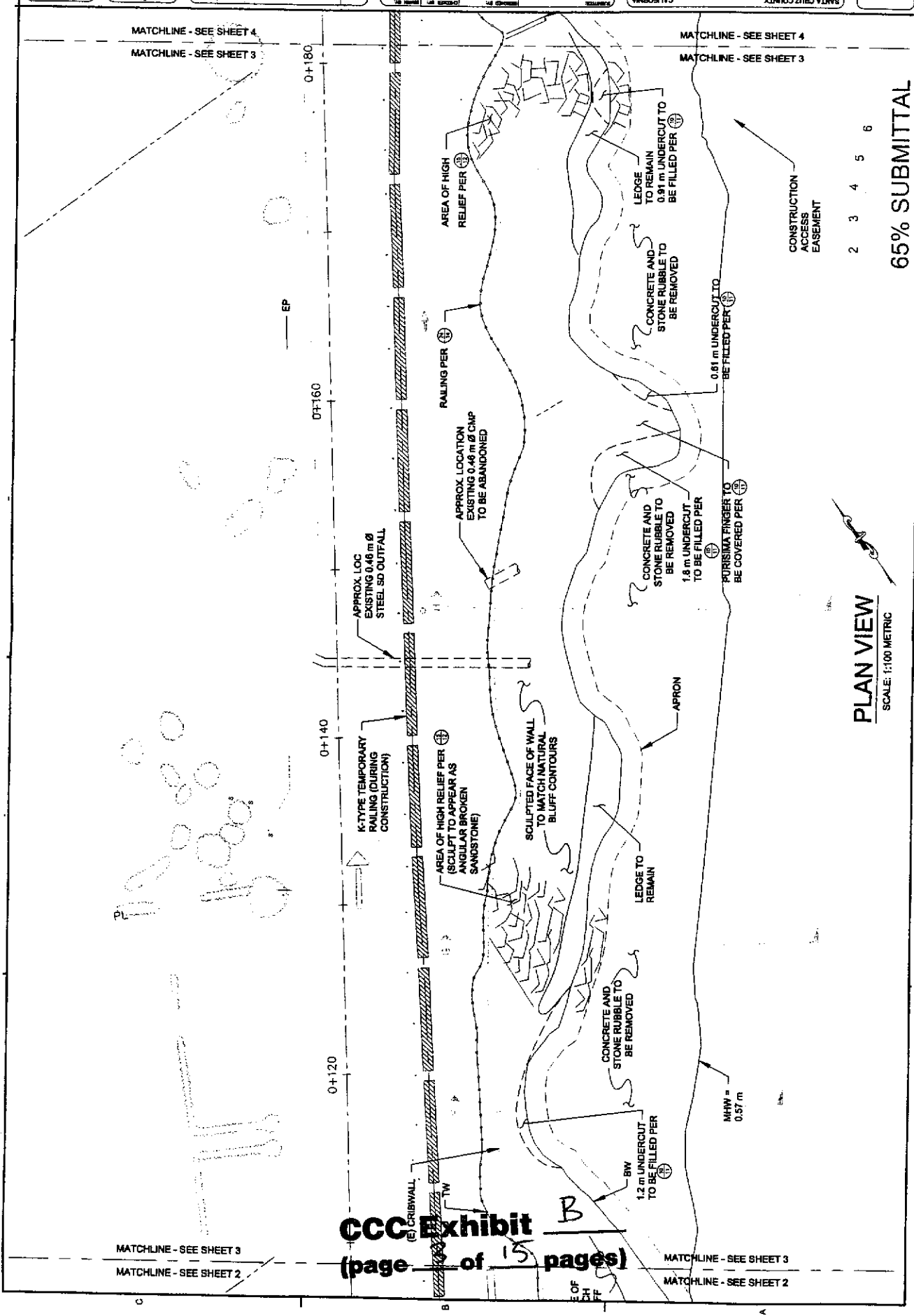


DATE	12-01-12
PROJECT	COASTAL BLUFF STABILIZATION
CLIENT	CCC
DESIGNER	SAGE
CHECKED BY	EP
DATE	12-01-12

DATE	12-01-12
PROJECT	COASTAL BLUFF STABILIZATION
CLIENT	CCC
DESIGNER	SAGE
CHECKED BY	EP
DATE	12-01-12

EAST CLIFF DRIVE
COASTAL BLUFF STABILIZATION
SITE PLAN
SANTA CRUZ COUNTY
CALIFORNIA

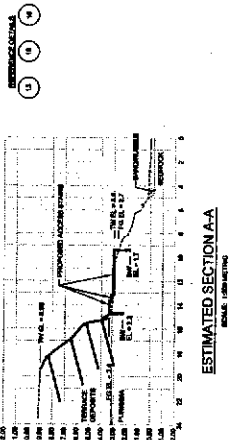
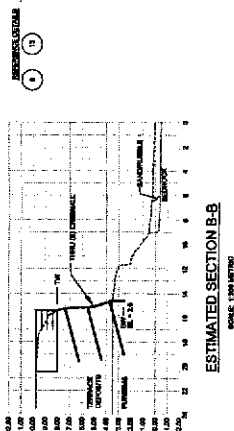
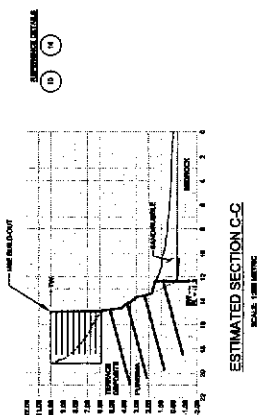
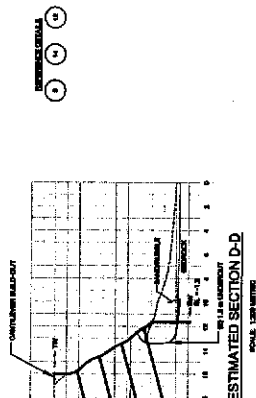
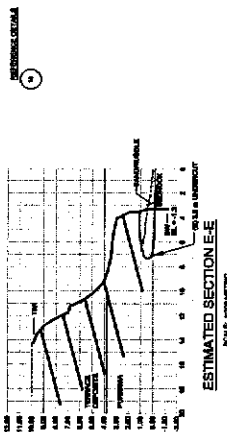
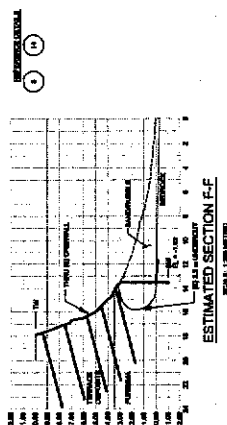
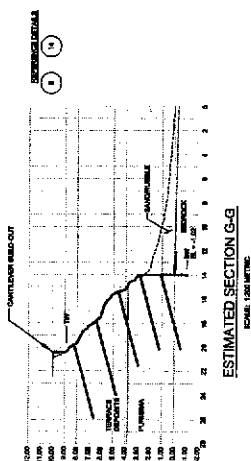
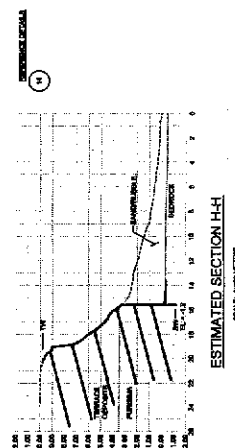
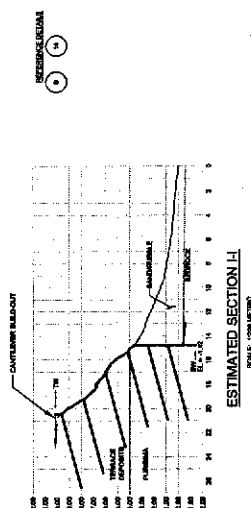
Sheet
reference
number
3



PLAN VIEW
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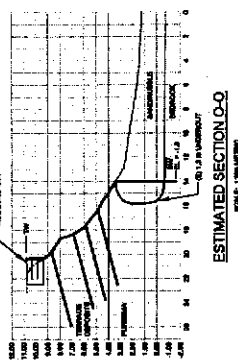
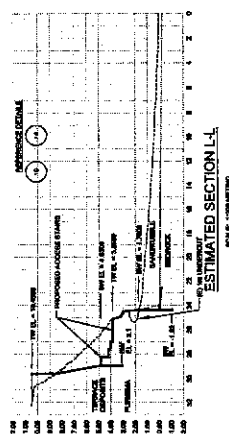
2 3 4 5 6
65% SUBMITTAL

CCC Exhibit
(page 3 of 15 pages)

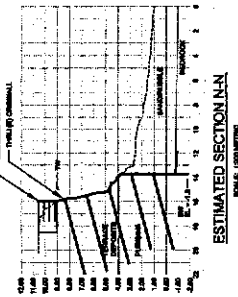
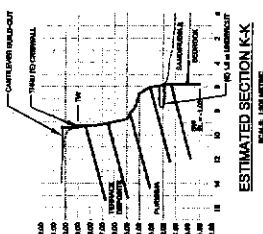


80% SUBMITTAL

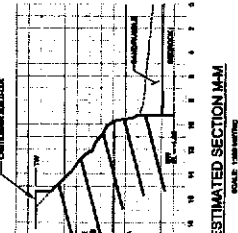
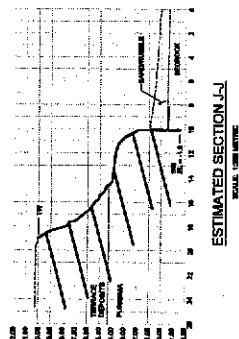
ESTIMATED SECTION L-L
SCALE: 1:500 METRIC



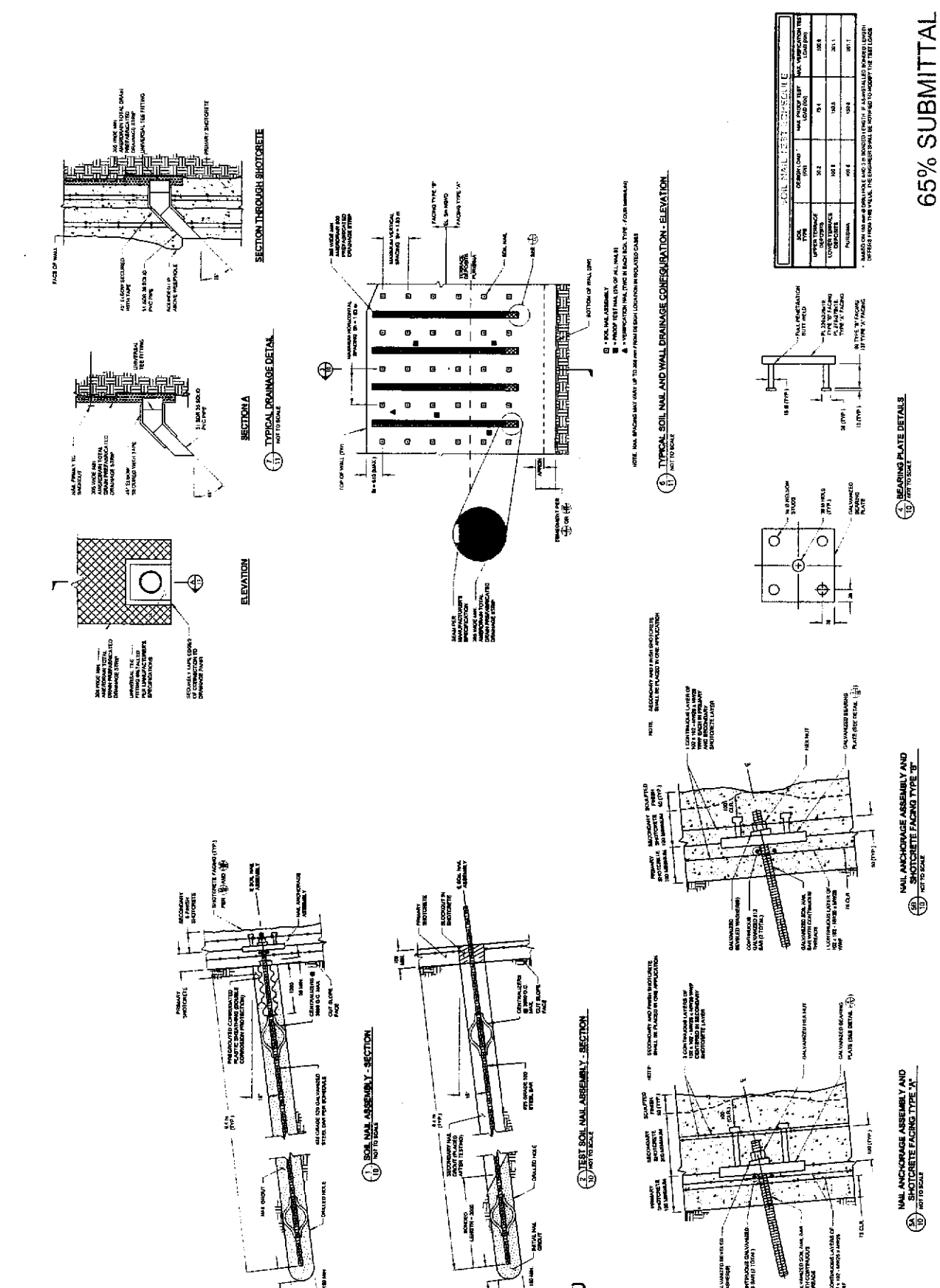
ESTIMATED SECTION K-K
SCALE: 1:500 METRIC



ESTIMATED SECTION J-J
SCALE: 1:500 METRIC



CCC Exhibit B
(page 8 of 15 pages)



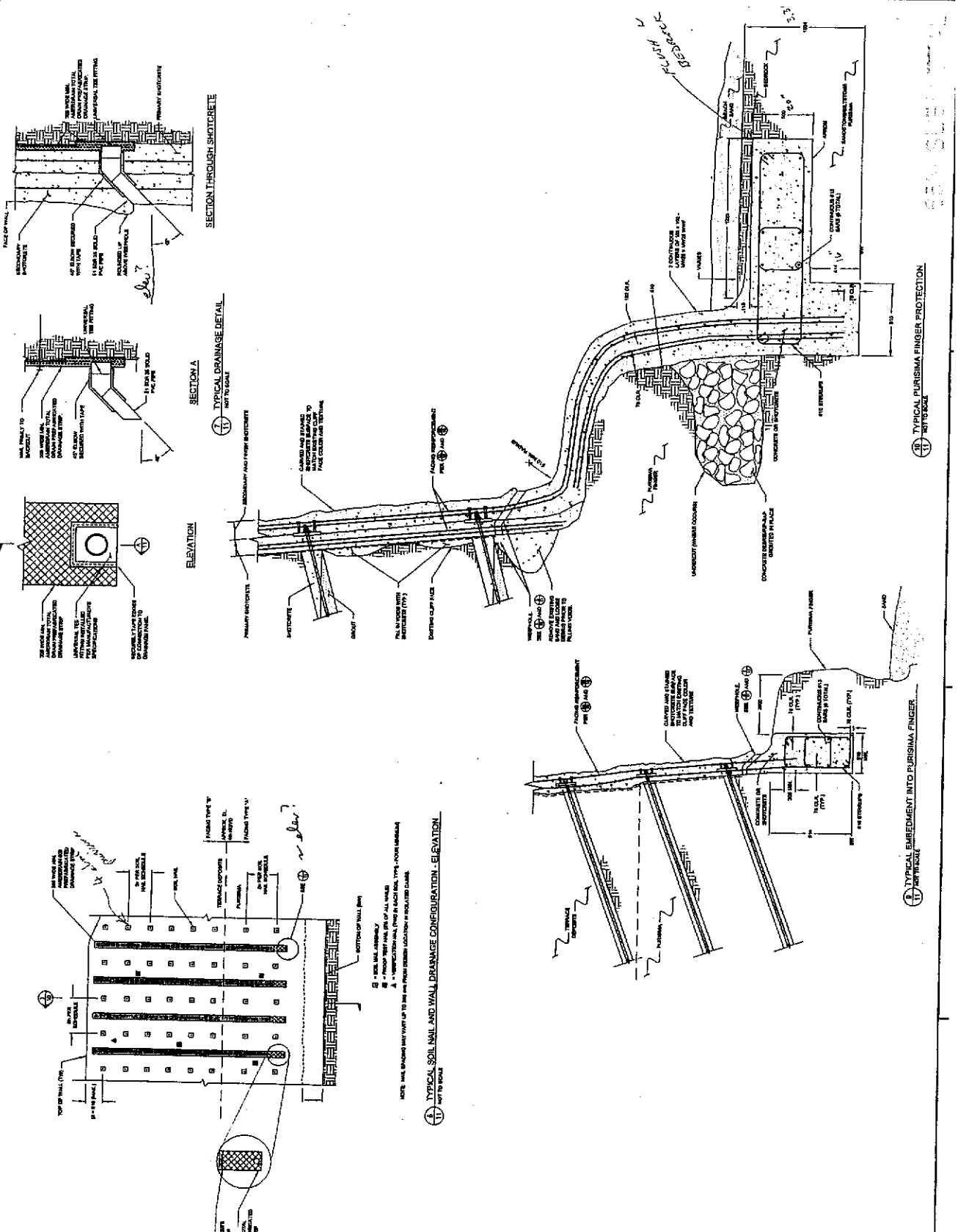
SOIL NAIL TEST RESULTS

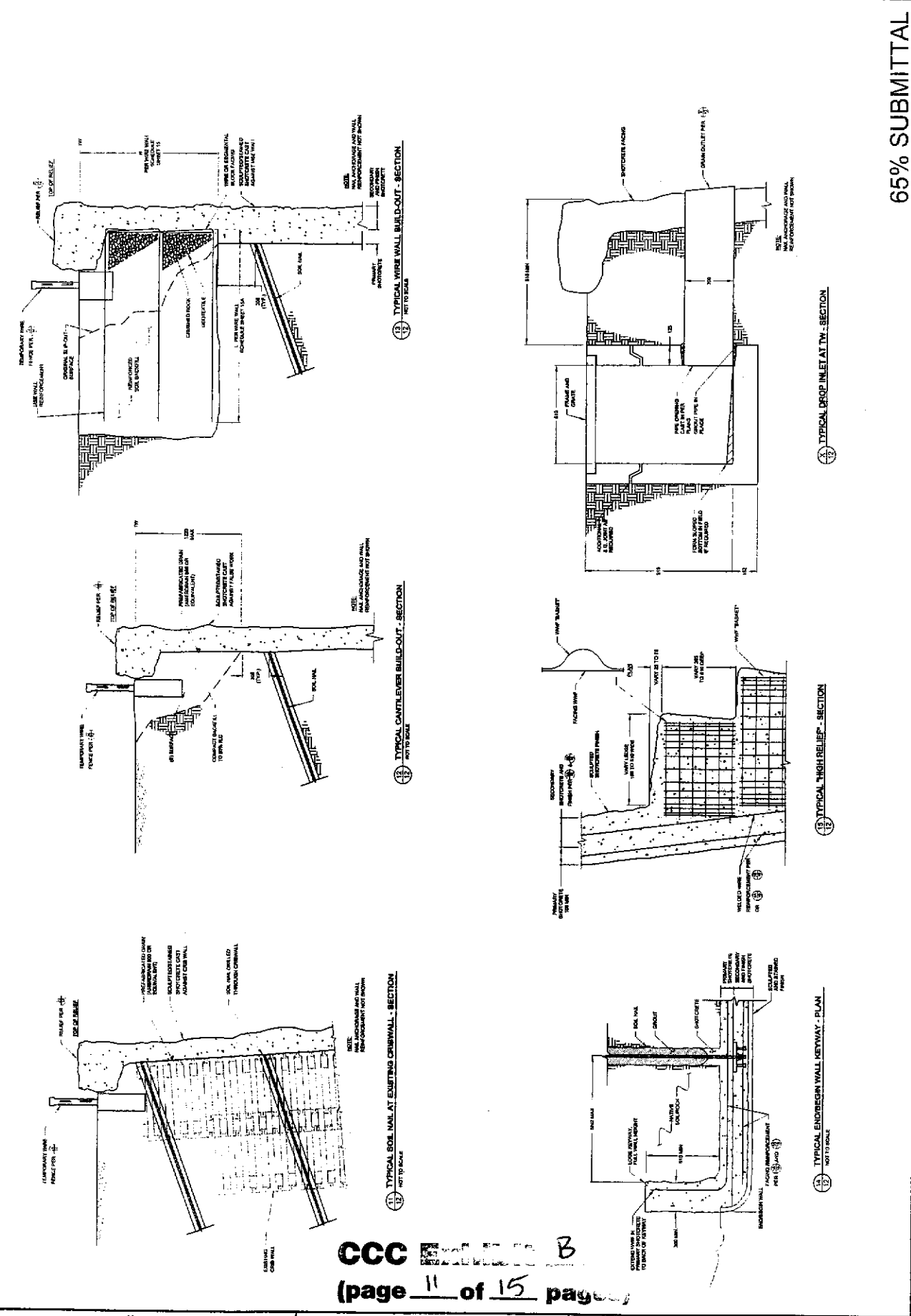
SOIL TYPE	CONCRETE (psi)	WALL PROTECT. (psi)	WALL PROTECT. (psi)	WALL PROTECT. (psi)	WALL PROTECT. (psi)
UPPER 10% (10' TO 10')	90.2	79.1	90.2	90.2	90.2
LOWER 10% (10' TO 20')	90.2	90.2	90.2	90.2	90.2
LOWER 10% (20' TO 30')	90.2	90.2	90.2	90.2	90.2
LOWER 10% (30' TO 40')	90.2	90.2	90.2	90.2	90.2
LOWER 10% (40' TO 50')	90.2	90.2	90.2	90.2	90.2

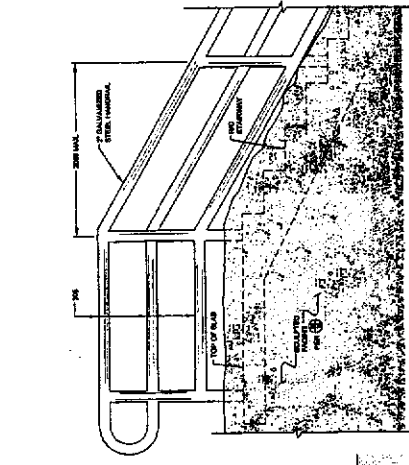
BEARING PLATE DETAILS
NOT TO SCALE

SOIL NAIL TEST RESULTS

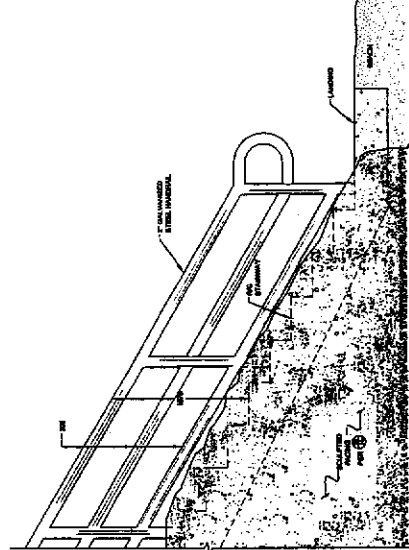
SOIL TYPE	CONCRETE (psi)	WALL PROTECT. (psi)	WALL PROTECT. (psi)	WALL PROTECT. (psi)	WALL PROTECT. (psi)
UPPER 10% (10' TO 10')	90.2	79.1	90.2	90.2	90.2
LOWER 10% (10' TO 20')	90.2	90.2	90.2	90.2	90.2
LOWER 10% (20' TO 30')	90.2	90.2	90.2	90.2	90.2
LOWER 10% (30' TO 40')	90.2	90.2	90.2	90.2	90.2
LOWER 10% (40' TO 50')	90.2	90.2	90.2	90.2	90.2



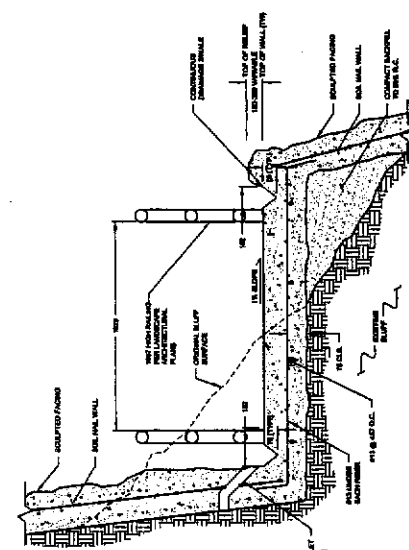




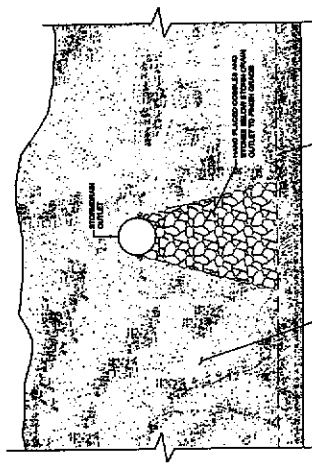
11 TYPICAL TOP OF STAIR DETAIL



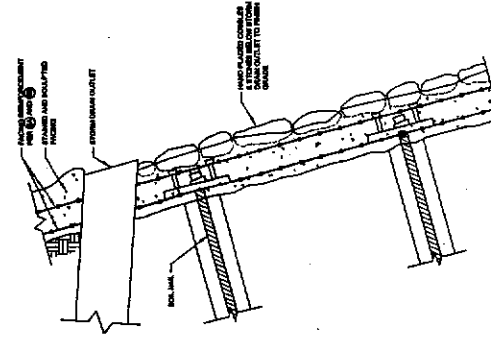
12 TYPICAL BOTTOM OF STAIR DETAIL



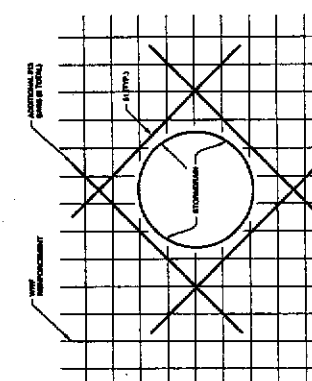
13 STAIRWAY CROSS SECTION



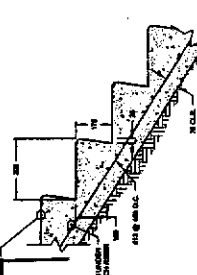
14 STORM DRAIN OUTLET - PLAN



15 STORM DRAIN OUTLET - SECTION



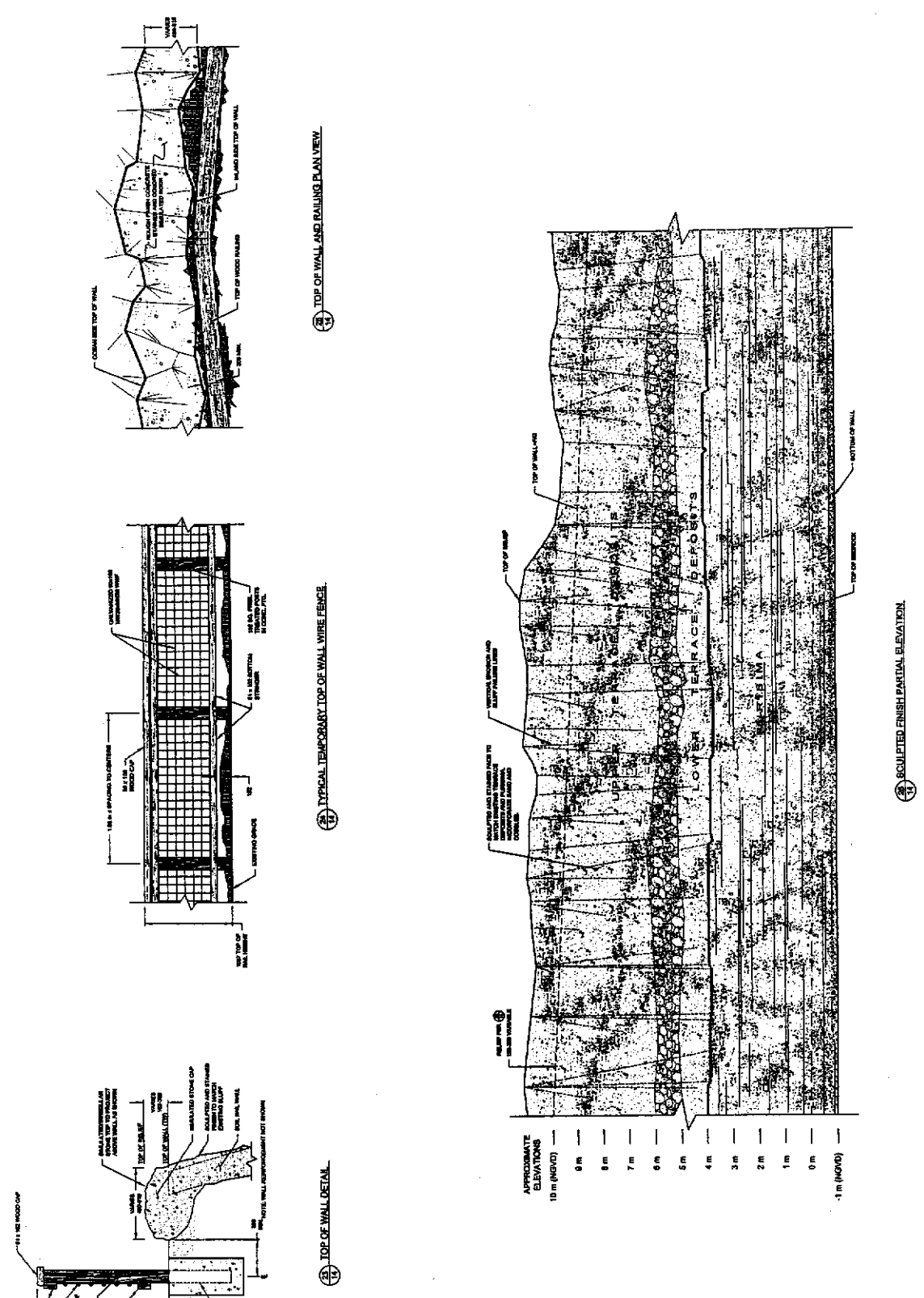
16 TYPICAL STORM DRAIN OUTLET



17 STEP DETAIL

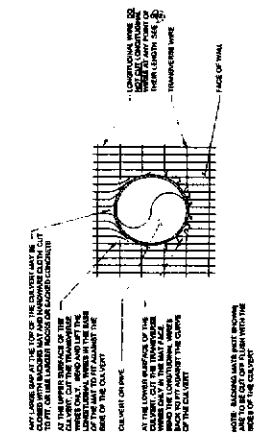


18 TREAD NOSING DETAIL

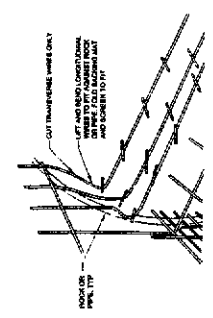


CCC Exhibit B
(page 13 of 15 pages)

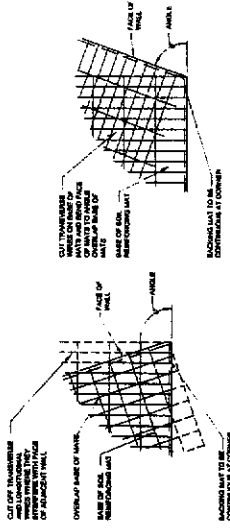
5 SLOPED CAP DETAIL



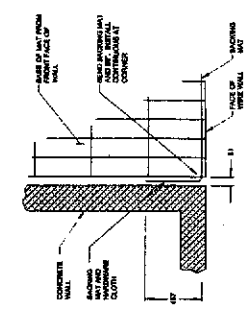
1. CULVERT THRU WALL FACE
2. REINFORCING BARS
3. FACE OF WALL



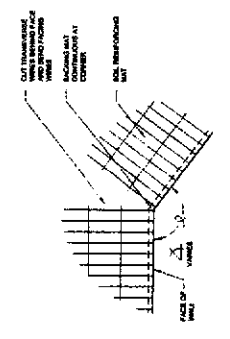
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2. REINFORCING BARS
3. FACE OF WALL



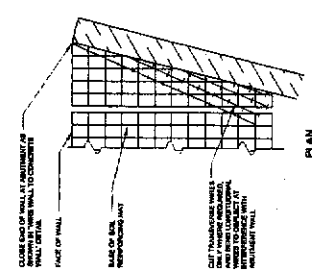
1. CULVERT THRU WALL FACE
2. REINFORCING BARS
3. FACE OF WALL



1. CULVERT THRU WALL FACE
2. REINFORCING BARS
3. FACE OF WALL



1. CULVERT THRU WALL FACE
2. REINFORCING BARS
3. FACE OF WALL



1. CULVERT THRU WALL FACE
2. REINFORCING BARS
3. FACE OF WALL



Source: Square One Productions 2001

A view of the existing conditions at the project site

Source: Square One Productions 2001

Existing Conditions, Ocean View
Santa Cruz, California

Figure 5-1b

 Tetra Tech, Inc.



Source: Square One Productions 2001

A visual simulation of the site following implementation of Alternative 1

Source: Square One Productions 2001

Visual Simulation, Alternative 1, Ocean View
Santa Cruz, California

Figure 5-2b

 Tetra Tech, Inc.

CCC Exhibit C
(page 1 of 2 pages)



Existing conditions at the project area include concrete rubble, retaining walls (lower left-hand corner of picture), white protective railing around areas of failed roadway, nonnative vegetation and minimal beach area due to the concrete rubble and rock riprap.

Existing Conditions, Bluff View

Santa Cruz, California

Figure 5-1a

Tt Tetra Tech, Inc.



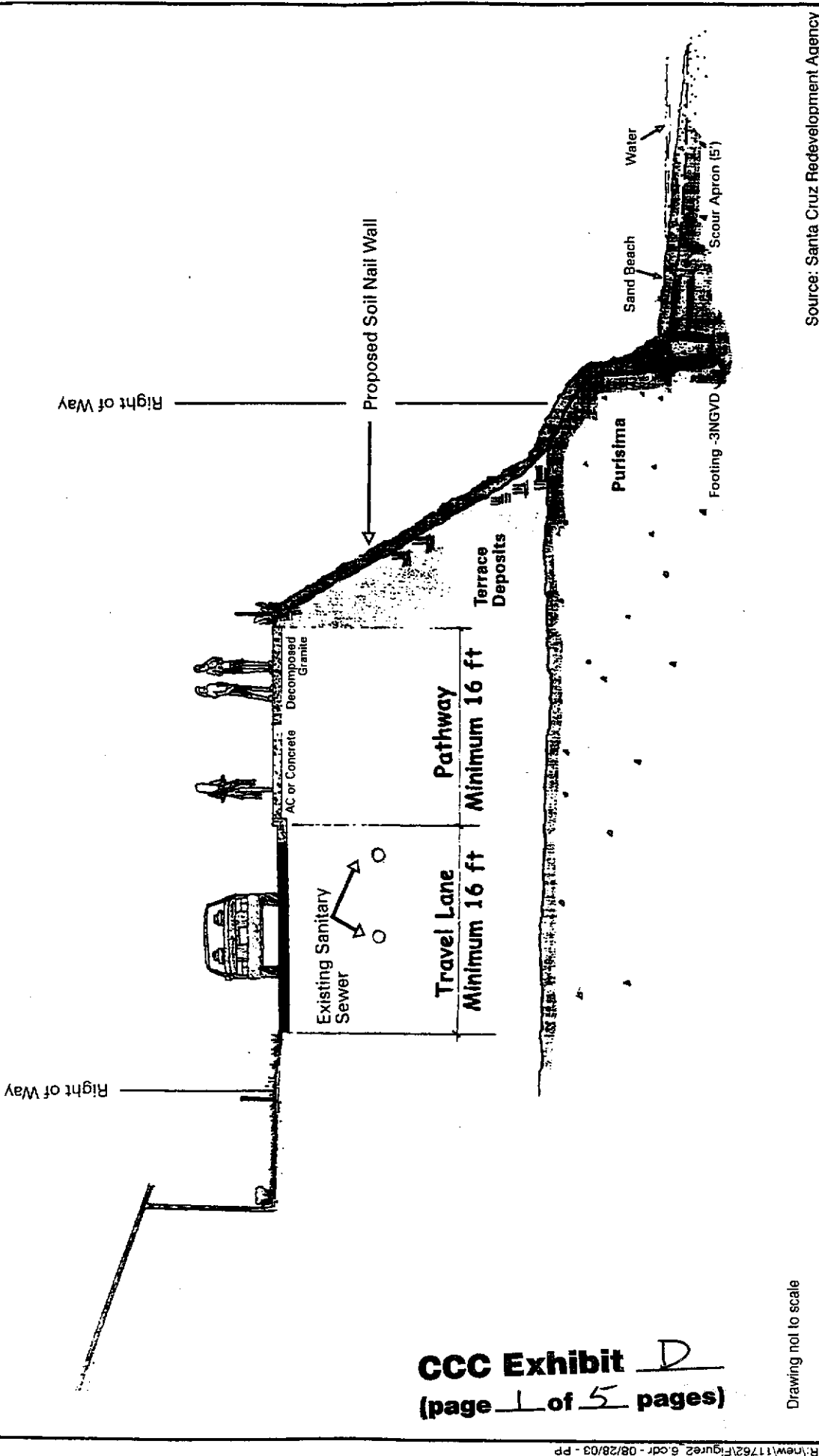
CCC Exhibit C
(page 2 of 2 pages)

Source: Square One Productions 2001

The visual simulation for Alternative 1 shows the bluff armoring in the project area and the removal of concrete rubble. Parkway improvements would include fencing, two 8-foot paths, and landscaping. Any rock riprap would be relocated to stairway.

Visual Simulation, Alternative 1, Bluff View

Santa Cruz, California



CCC Exhibit D
(page 1 of 5 pages)

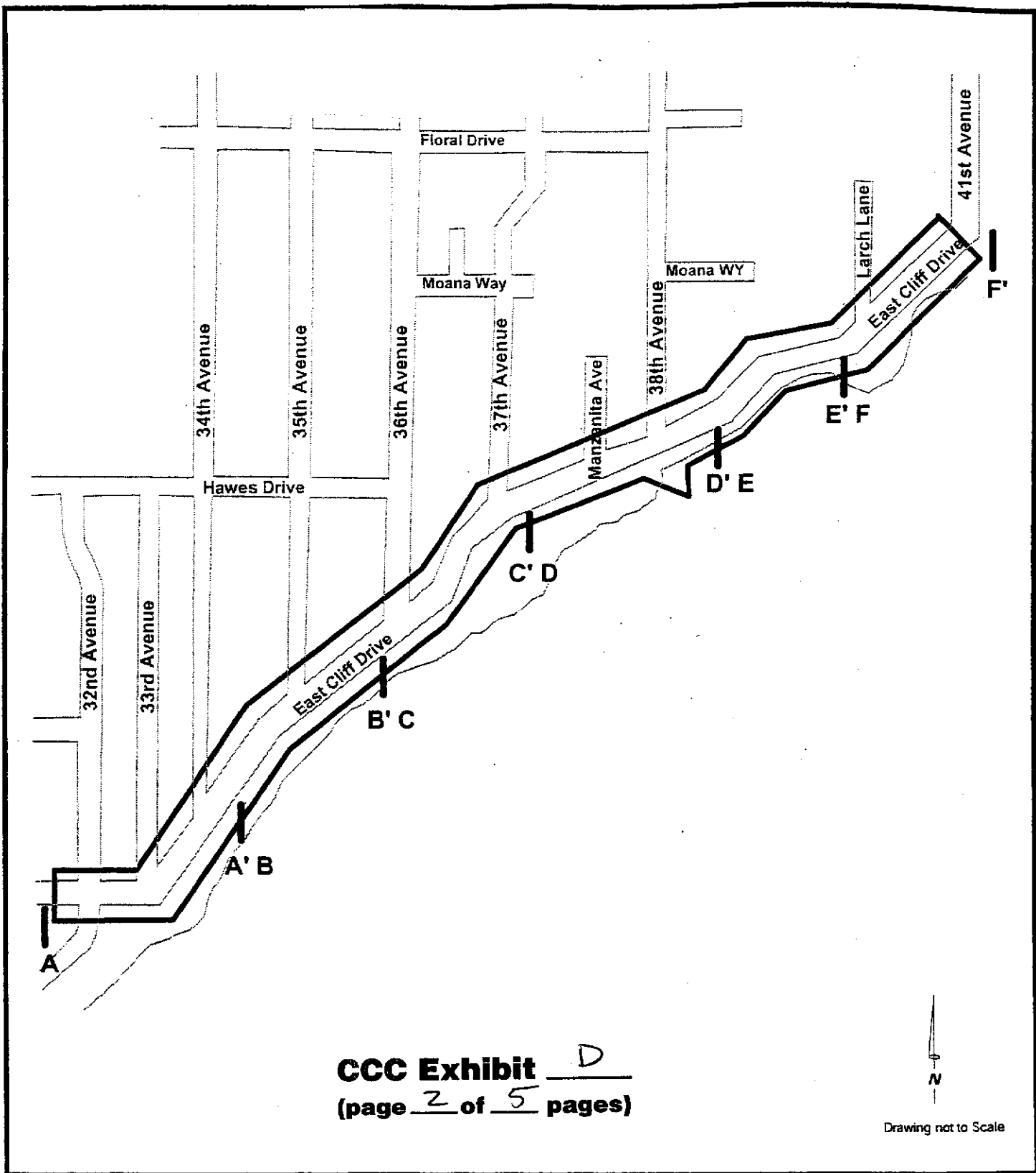
Drawing not to scale

The proposed action involves a bluff protection structure, a dedicated bike path, and pedestrian lane at the top of the bluff.

Source: Santa Cruz Redevelopment Agency

Representative Cross Section of Bluff Protection Structure and Parkway Improvements

Santa Cruz, California
Figure 2-6



[illegible]

3/4

33RD AVE.

EAST CLIFF DRIVE

TOP OF STRUCTURE

1	Existing-Numbered Parking Spaces
1P	Numbered Proposed Parking-Spaces

CCC Exhibit
(page 3 of 5 pages)

CONTINUED FROM
MAP SEGMENT A

CCC Exhibit
(page 3 of 5 pages)

CONTINUED FROM MAP SEGMENT A

MAP SEGMENT B

CONTINUED ON MAP SEGMENT C

LEGEND:

- Vegetation
- Top of Structure
- Right-of-Way
- Concessions
- Existing
- New Parking
- Drainage Lines
- Bicycle Path
- Pedestrian Path
- Existing Parking
- New Parking

FIGURE 2-5a

EXISTING NUMBERED PARKING SPACES

1

1P **NUMBERED PROPOSED PARKING SPACES**













Project Site Map Sheet 1

1/3

EAST CLIFF DRIVE

FIGURE 2-5a

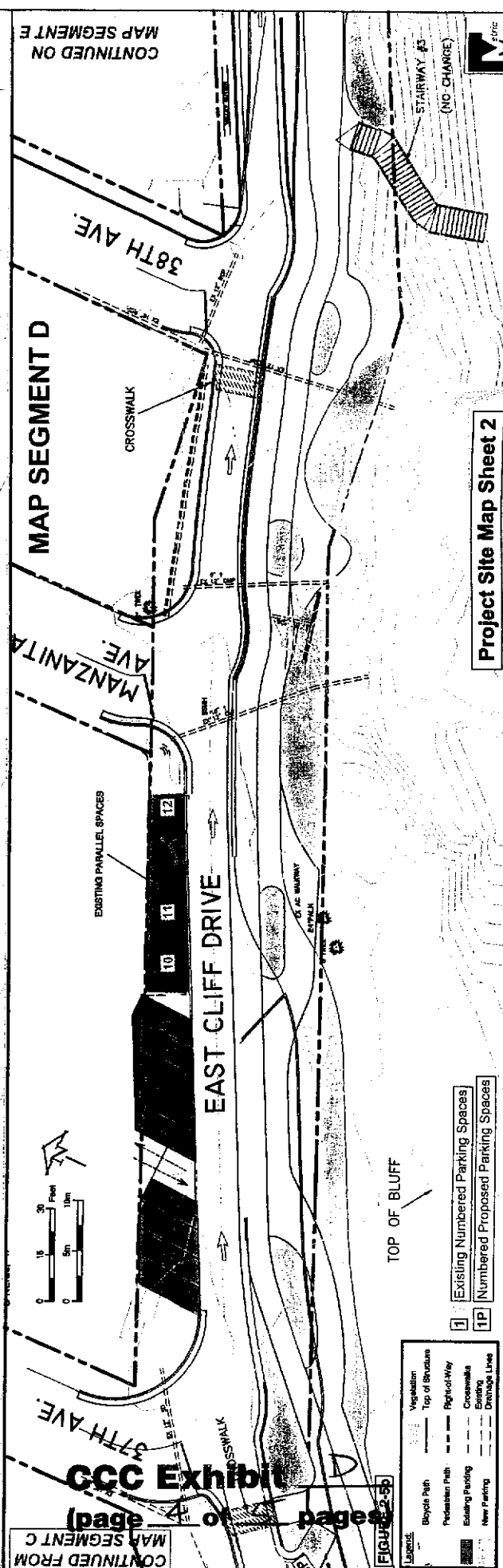
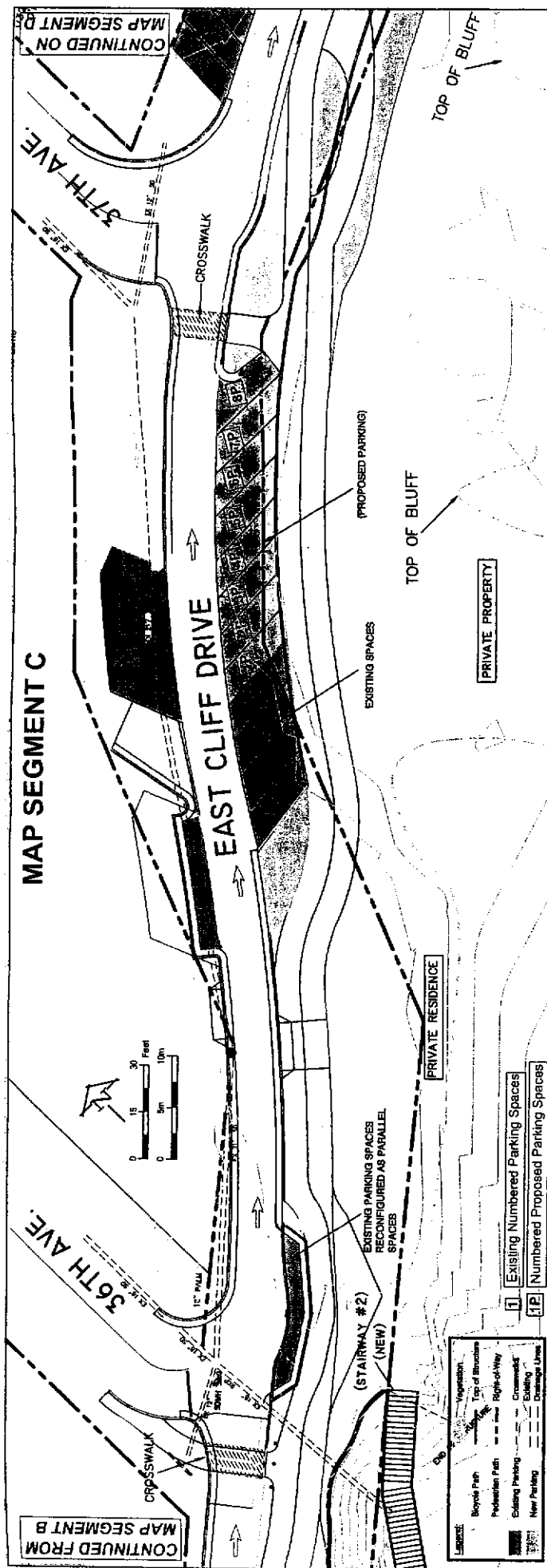
Legend:

	Bicycle Path		Vegetation
			Tree of Structure
			Right-of-Way
	Existing Marking		Crosswalks
	New Parking		Existing
			Drainage Lines

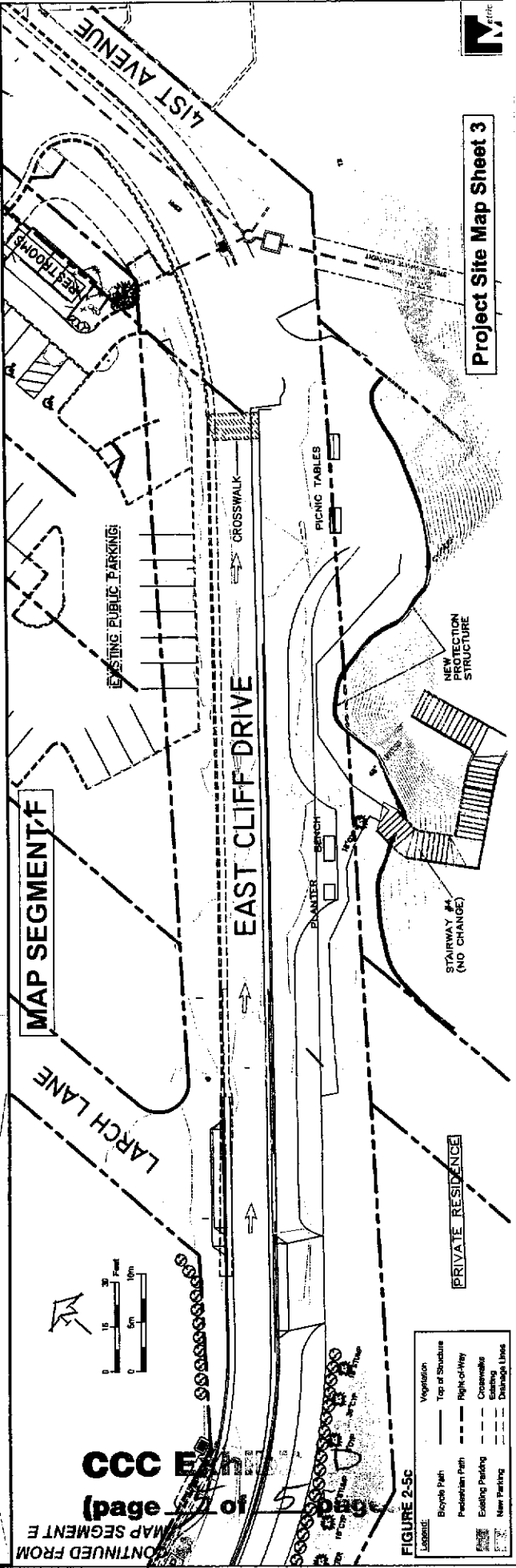
1	Existing Numbered Parking Spaces
1P	Numbered Proposed Parking Spaces

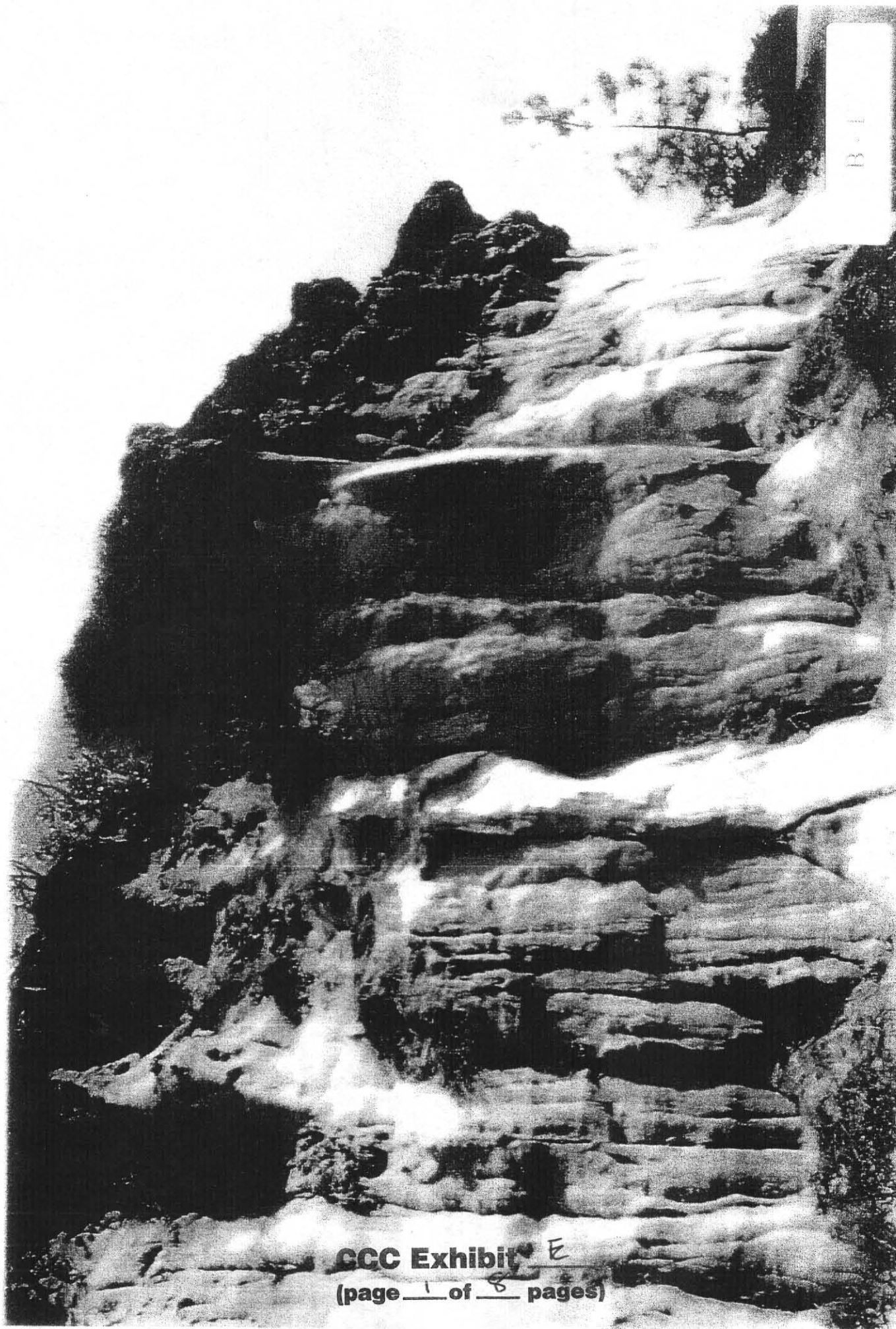
EXISTING STAIRS
(TO BE DEMOLISHED)

Project Site Map Sheet 1



Project Site Map Sheet 2



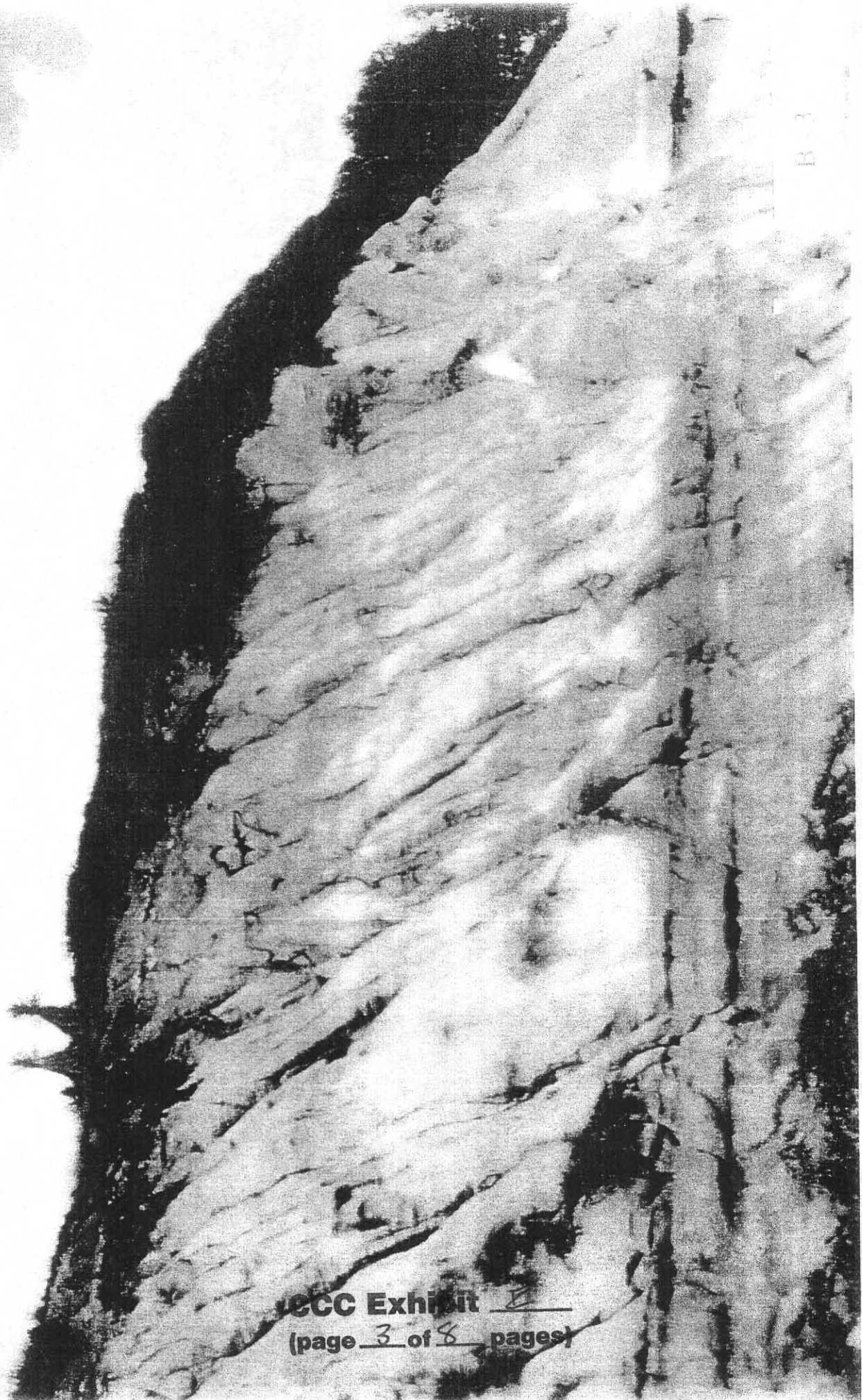


CCC Exhibit E
(page 1 of 8 pages)

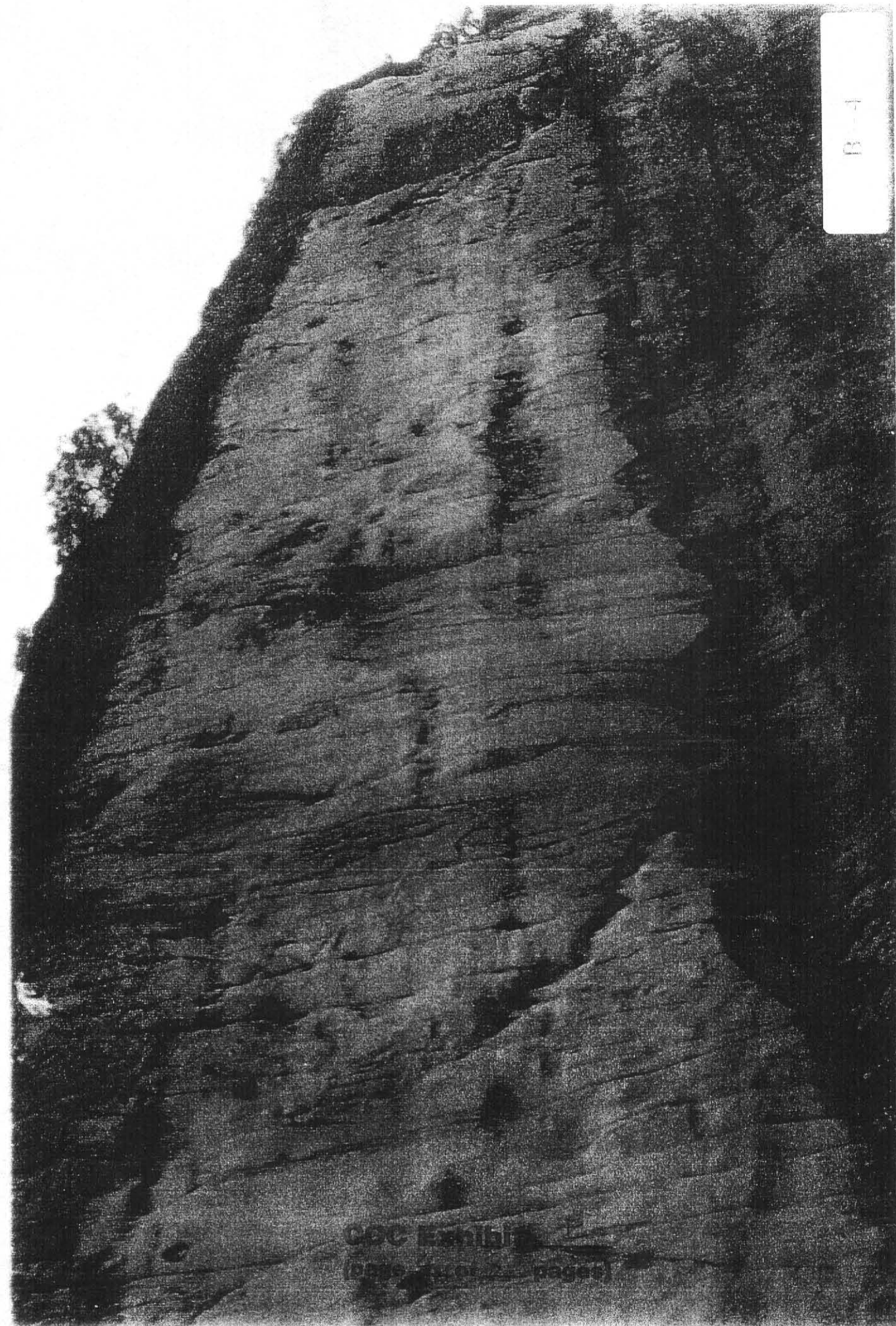
B-2

CCC Exhibit E

(page 2 of 3 page)



ECC Exhibit 2
(page 3 of 8 pages)



CDC Exhibit
(Page 1 of 2 pages)

B-5

CCG Exhibit B
(page 5 of 8 pages)

B-9

UCC Exhibit 8

Page 6 of 8 pages

B-11

B-14



DEPARTMENT OF THE ARMY
SAN FRANCISCO DISTRICT, U.S. ARMY CORPS OF ENGINEERS
333 MARKET STREET
SAN FRANCISCO, CALIFORNIA 94105

March 12, 2003

Planning Branch

Mr. Peter Douglas, Executive Director
Attn: James Raives
California Coastal Commission
45 Fremont Street, Suite 2000
San Francisco, California 94105

RECEIVED

MAR 14 2003

CALIFORNIA
COASTAL COMMISSION
CENTRAL COAST AREA

Subject: "East Cliff Drive Bluff Protection Project"

Dear Mr. Douglas:

The Corps of Engineers, San Francisco District is proposing to build a bluff protection structure along East Cliff Drive in Santa Cruz, California between 33rd and 36th Avenues. This project consists of an 1100 linear-foot engineered (soil nail and shotcrete) bluff protection structure that would fully armor the bluff along this area. This project is described in further detail in the East Cliff Drive Bluff Protection and Parkway Draft Environmental Impact Statement/Environmental Impact Report (EIS/EIR) dated March 2003 and in the Detailed Project Report (available upon request). The Draft EIS/EIR 45-day review and comment period will begin on March 21, 2003.

It should be noted that although the EIS/EIR discusses three separate projects, at this time the Corps is only requesting a Consistency Determination on one project. This project is referred to in the EIS/EIR as Project 1 (Main Bluff Protection Structure-1100 linear feet).

Pursuant to Section 930.34 of the National Oceanic and Atmospheric Administration (NOAA) Federal Consistency Regulations (15 CFR Part 930), the Corps of Engineers, San Francisco District, has prepared a Consistency Determination for the proposed bluff protection structure (Project 1-Main Bluff Protection Structure-1100 feet). This Consistency Determination is enclosed for your review. We request your concurrence with this Determination.

Please contact Ms. Sarah Cameron in my office at (415) 977-8538 if you need any additional information or documentation to assist you in this process. Written comments should be sent to the undersigned.

Sincerely,

with K. DeJager
for

Peter E. LaCivita
Acting Chief, Environmental Planning Section

CCC Exhibit F
(page 1 of 6 pages)

COASTAL CONSISTENCY DETERMINATION

**EAST CLIFF DRIVE BLUFF PROTECTION PROJECT
SANTA CRUZ, CALIFORNIA**

RECEIVED

MAR 14 2003

CALIFORNIA
COASTAL COMMISSION
CENTRAL COAST AREA

March 12, 2003

Prepared By:

UNITED STATES ARMY CORPS OF ENGINEERS
SAN FRANCISCO DISTRICT-ENVIRONMENTAL PLANNING SECTION
333 MARKET STREET
SAN FRANCISCO, CA 94105-2197

CCC Exhibit F
(page 2 of 6 pages)

Authority

This Coastal Consistency Determination is submitted pursuant to Federal Consistency With Approved Coastal Management Programs regulations found at 15 CFR 930 requiring Federal agencies to provide state coastal zone management with a consistency determination for any activity directly affecting the coastal zone.

Determination

This consistency determination has been prepared by the U.S. Army Corps of Engineers, San Francisco District pursuant to § 307 of the Federal Coastal Zone Management Act of 1972, as amended (16 USCA § 1451). This Act requires Federal agencies to conduct activities directly affecting the designated coastal zone in a manner consistent with approved state management programs to the maximum extent practicable. The Federal coastal bluff protection structure is sited in the California coastal zone and will directly affect coastal zone resources.

The U.S. Army Corps of Engineers (Corps), San Francisco District has evaluated the project relative to the California Coastal Act of 1972, as amended, and has found it to be consistent to the maximum extent practicable with the applicable provisions of Chapter 3, Coastal Resource Planning and Management policies for the reasons stated below.

Project Description

Project alternatives, site plans, and cross sections, are discussed in detail in the Detailed Project Report (DPR) and the Environmental Impact Statement (EIS) and are incorporated herein by reference. While the EIS discusses three separate projects involving East Cliff Drive, the Corps, at this time, is only requesting a Consistency Determination for the 1,100 linear foot bluff protection structure (Project 1 in the EIS). The parkway improvement project is the County of Santa Cruz project and the Corps is not directly involved in this project. The final project that is discussed in the EIS is an approximately 300 linear foot project located at the "Hook" area (41st Avenue) of East Cliff Drive (which involves a very similar bluff protection structure). This project is currently in the reconnaissance phase of study by the Corps. The Project Management Plan has not been written yet, and the study plan has not been initiated. This project is still in the initial stages, however, studies indicate federal interest in this project. Further development of this project is subject to funding constraints.

The project plan for the East Cliff Drive Bluff Protection structure (1,100 linear foot section) would be to fully armor the cliff face with an engineered (soil nail and shotcrete) bluff protection structure: an 1,100-linear-foot segment, between 33rd and 36th Avenues. The bluff protection structure proposed is referred to as a soil nail wall. This soil nail wall would be supplemented with Mechanically Stabilized Earth (MSE) retaining walls on an as needed basis in areas where the Terrace deposits have failed. The proposed bluff protection structure would be designed to protect the slope and to look natural as possible. The proposed structure would be sculpted and

stained to match the existing soils and rock layers and would follow closely or hug the natural cliff face

The proposed project's consistency with each applicable Coastal Zone Management Act policy/provision from the Santa Cruz County, City of Santa Cruz and the Santa Cruz Local Coastal Plan are analyzed below:

** Coastal Act Provision 30210 - In carrying out the requirement of Section 2 of Article XV of California Constitution, maximum access, which shall be conspicuously posted, and recreational opportunities shall be provided for all the people consistent with public safety needs and the need to protect public rights, rights of private property owners, and natural resources areas from overuse.*

The will be no change in land-use of this project area. The project area is currently and will remain public property. Signs shall be placed at the beginning and end of the project boundaries and explain improvements to the site.

** Coastal Act Provision 30211- Development shall not interfere with the public's right of access to the sea where acquired through use or legislative authorization, including, but not limited to, the use of dry sand and rocky coastal beaches to the first line of terrestrial vegetation.*

The proposed project will not impact the public's rights of access to the sea where acquired through use or legislative authority. During the construction of the seawall, there may be temporary public access issues for safety reasons related to specific equipment staging areas, movement of construction vehicles and machinery, repairing and replacing of old stairways that provide beach access, and other construction related activities. However, there will not be an impact upon public's rights of access once the seawall is completed. The repairing and replacing of several stairways within the project boundary will provide safer beach access to the public. Alternative access entrances and exits shall be indicated on signs posted at the project site. Access would be provided from at least one of three points. Construction would not inconvenience those accessing the sea for no more than a few months.

** Coastal Act Provision 30223 - Upland areas necessary to support coastal recreational uses shall be reserved for such uses, where feasible.*

The proposed project will improve coastal access. This will be achieved by relocating and refurbishing existing staircases, as well as, creating a new staircase where there was not one already. Currently, all except for one of the staircases that provide access to the beach are in need of repair. This project would improve beach access by creating more stairways, and safer beach access. Total access would temporarily disrupted coastal access for about two months; however, construction would provide stable coastal access for the next 50 years.

** Coastal Act Provision 30230 - Marine resources shall be maintained, enhanced, and where feasible, restored. Special protection shall be given to areas and species of special biological significance. Uses of the marine environment shall be carried out in a manner that would sustain the biological productivity of coastal waters and that would maintain healthy populations of all*

species of marine organisms adequate for long-term commercial, recreational, scientific, and educational purposes.

This proposed project would not directly affect marine resources in the immediate project area or in the Monterey Bay National Marine Sanctuary (MBNMS). Removal or movement of riprap at the bluff's toe would occur during low tide and would not impact marine resources. A Stormwater Pollution Prevention Plan would be developed and implemented according to the recommendations of the Central Coast Regional Water Quality Control Board. In order to prevent runoff of any construction related contaminants from entering the MBNMS.

** Coastal Act Provision 30235 - Construction altering natural shoreline
Revetments, breakwaters, groins, harbor channels, seawalls, cliff retaining walls, and other such construction that alters natural shoreline processes shall be permitted when required to serve coastal dependent uses or to protect existing structures or public beaches in danger from erosion, and when designed to eliminate or mitigate adverse impacts on local shoreline sand supply. Existing marine structures causing water stagnation contributing to pollution problems and fish kills should be phased out or upgraded where feasible.*

The proposed project will have a negligible effect on the amount of sand contributed to the littoral drift. The project will also not adversely affect the coastline or the coastal processes (such as wave reflection or refraction). The structure will protect the road, utilities, and residences that lie on the top of the cliff and prevent further erosion of the cliff face. This project would overall not have an adverse effect on the shoreline processes. This project will protect the bluffs and the road from further erosion.

** Coastal Act Provision 30251 Scenic and visual qualities
The scenic and visual qualities of coastal areas shall be considered and protected as a resource of public importance. Permitted development shall be sited and designed to protect views to and along the ocean and scenic coastal areas, to minimize the alteration of natural land forms, to be visually compatible with the character of surrounding areas, and, where feasible, to restore and enhance visual quality in visually degraded areas. New development in highly scenic areas such as those designated in the California Coastline Preservation and Recreation Plan prepared by the Department of Parks and Recreation and by local government shall be subordinate to the character of its setting.*

The proposed bluff protection structure would be designed to protect the slope and to look natural as possible. The proposed structure would be sculpted and stained to match the existing soils and rock layers and would follow closely or hug the natural cliff face.

** Coastal Act Provision 30253 Minimization of adverse impacts
New development shall:*

- (1) Minimize risks to life and property in areas of high geologic, flood, and fire hazard.*
- (2) Assure stability and structural integrity, and neither create nor contribute significantly to erosion, geologic instability, or destruction of the site or surrounding area or in any way require the construction of protective devices that would substantially alter natural landforms along bluffs and cliffs.*

The goal of this project is to protect the cliffs, bluffs, utilities, and the roadway along this eroding section of East Cliff Drive. The project is expected to provide structural integrity and stability to this eroding coastline for the next 50 years. This project is not anticipated to affect surrounding landforms or protective devices.

** Coastal Act Provision 30240- (a) Environmentally sensitive habitat areas shall be protected against any significant disruption of habitat values, and only uses dependent on such resources shall be allowed within such areas. (b) Development in areas adjacent to environmentally sensitive habitat areas and parks and recreation areas shall be sited and designed to prevent impacts which would significantly degrade such areas, and shall be compatible with the continuance of such habitat areas.*

The area adjacent to the project site is highly urbanized. This proposed project would not affect any sensitive habitat areas within the immediate project area or in the Monterey Bay National Marine Sanctuary.

** VII SPECIFIC AREA POLICIES AND RECOMMENDATIONS:*

B. Intertidal Zone Policy (4)(a)- Tidepools and tidal flats shall be managed to maintain their present characteristics with all feasible measures taken to mitigate uses which might prove harmful to the biota inhabiting these areas.

This proposed project would not affect any biota in the immediate project area or in the Monterey Bay National Marine Sanctuary. Removal or movement of riprap at the bluff's toe would occur during low tide and would not impact these resources.

Summary

The Corps has coordinated with the California Coastal Commission (CCC) regarding this project (both the Santa Cruz and San Francisco offices) from the early stages of this project. The Corps has made every effort to incorporate the CCC's comments and suggestions on the Notice of Preparation for the Pleasure Point Seawall and Parkway Project (now known as the East Cliff Drive Bluff Protection Project), dated March 6, 2001, into the design and development of this project to the maximum extent feasible. Based upon the above findings and analyses within this Consistency Determination and the EIS, the Corps has determined that the proposed project is consistent to the maximum extent practicable with the Federally-approved State's California Coastal Management Program (CCMP), and the Federally-approved Coastal Zone Management Act (CZMA).

CALIFORNIA COASTAL COMMISSION

5 FREMONT STREET, SUITE 2000
SAN FRANCISCO, CA 94105-2219
VOICE AND TDD (415) 904-5200



April 1, 2003

Peter LaCivita
Acting Chief, Environmental Planning Section
San Francisco District
U.S. Army Corps of Engineers
333 Market Street
San Francisco, CA 94105

RECEIVED

APR 02 2003

CALIFORNIA
COASTAL COMMISSION
CENTRAL COAST AREA

RE: CD-021-02, East Cliff Drive Bluff Protection Project, Santa Cruz County.

On March 13, 2003, the Commission staff received the above-referenced consistency determination. The regulations that implement the Coastal Zone Management Act provide the Commission with 60 days to review a consistency determination¹ subject to a right to request an automatic 15-day extension of this review period.² These timeframes require the Commission to respond to this consistency determination by May 17, 2003. However, these regulations also allow the U.S. Army Corps of Engineers (Corps) to consider extensions beyond the mandatory 15-day extension. The regulations provide that the following standard shall govern the federal agency's response to a request for an extension of time for review:

In considering whether a longer or additional extension period is appropriate, the Federal agency should consider the magnitude and complexity of the information contained in the consistency determination.³

The purpose of this letter is to request that the Corps agree to an additional extension for the Commission's review of the consistency determination to a later date after the applicable local and environmental review processes have concluded.

As you may be aware, the County has been developing the subject seawall and roadway project for multiple years. The Commission staff has provided guidance on this project over that time and has provided substantive comments on potential project issues. The project has been extremely controversial since its inception and has elicited a great deal of public response. The interested public has not heard much of this project recently, as the County and the Corps have been preparing the environmental document for the project. The Corps just published this document and it is clear from the response that we have heard to date that the public does not understand that the Corps' involvement results in an expedited review process that will significantly precede the review of the road project. We are concerned that this process may result in a scenario for great confusion by members of the public.

To avoid any problems, the Commission staff believes that an additional extension beyond the 75 days allowed by the regulations is necessary. As stated above, our main concern is that this project is very controversial locally and the Commission staff must give the public sufficient time

¹ 15 CFR § 930.41(a)

² 15 CFR § 930.41(b)

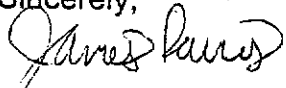
³ 15 CFR § 930.41(b)

and opportunity to provide input to decisions on the project. Public participation is a cornerstone of the California Coastal Management Program⁴ (CCMP) and a hearing in May on this consistency determination would not accomplish the goal of maximizing public involvement. The Commission staff believes that the best way to maximize public involvement and to adequately evaluate the project for CCMP consistency is for the Commission's hearing to occur after the Corps completes, and the County Board of Supervisors approves, the Final Environmental Impact Report/Environmental Impact Statement (FEIR/EIS) for the project. Such a postponement would allow the Commission staff to incorporate into the review process information on all relevant issues identified by the public and County decision makers.

In addition, the extension will allow the Commission staff to better incorporate the concerns and expertise of its geologist and coastal engineer. Finally, the project raises complex substantive issues relating to geologic hazards, coastal erosion, sand supply, habitat, viewshed, community character, water quality and runoff, long term site stability, surfing and other public access and recreation effects. In light of the substantial public interest in and controversy over this project, the Commission must evaluate these substantive issues in detail so that its action comprehensively addresses all relevant issues. In the end, having the Commission act prematurely in May could undermine the review process and risk delays.

In conclusion, the Commission staff strongly reiterates its request for an extension of time for Commission response to the Corps' consistency determination for the East Cliff Drive, Santa Cruz County, bluff protection project. The extension should be long enough to allow the Corps to complete and the County Board of Supervisors to approve the FEIR/EIS and to allow the Commission staff to consider all issues raised by these processes. Thank you for your consideration of this request. If you have any questions, please contact me at (415) 904-5292.

Sincerely,



James R. Raives
Federal Consistency Coordinator

cc: Charles Lester, California Coastal Commission
Dan Carl, California Coastal Commission
Paul Rodriguez, Santa Cruz County, Department of Public Works

⁴ See CZMA § 306(d)(14); 15 CFR § 930.42; Cal. Pub. Res. Code §§ 30006, 30339.

CALIFORNIA COASTAL COMMISSION

46 FREMONT STREET, SUITE 2000
SAN FRANCISCO, CA 94105-2218
VOICE AND TDD (415) 804-5200



October 16, 2003

Lt. Col. Michael McCormick
District Engineer
San Francisco District
U.S. Army Corps of Engineers
333 Market Street
San Francisco, CA 94105

RE: CD-021-02, East Cliff Drive Bluff Protection Project, Santa Cruz County.

Dear Lt. Col. McCormick:

On March 13, 2003, the Commission staff received the above-referenced consistency determination. At the Commission's request, the U.S. Army Corps of Engineers (Corps) extended the time for the Commission to review this consistency determination until after the Corps publishes its final Environmental Impact Statement (FEIS), which occurred at the end of September. The Commission hearing for this consistency determination is currently scheduled for its meeting in November in Los Angeles.

The purpose of this letter is to request that the Corps agree to an additional one-month extension for the Commission's review of the consistency determination. The Commission staff realizes that the Corps has already extended the time for the Commission review of this consistency determination for several months beyond the original time for Commission review. However, there are two reasons why the Commission staff believes that an additional one-month extension is necessary. First, a one-month extension will allow the Commission to hear the project in the San Francisco Bay area. This location will be more convenient for concerned public and the affected community from Santa Cruz County. One of the more important goals of the California Coastal Act and the federal Coastal Zone Management Act is to enhance public involvement in the process. We believe the best way to maximize public involvement in this process is to have a relatively local hearing. The second reason the Commission staff is requesting an extension is to provide us, and the public, with additional time to review the FEIS. As you know, the Corps provided the Commission staff with the FEIS at the end of September and, although staff has conducted a preliminary review of the public comments and responses, there are many complex issues raised and we believe that additional time is necessary to evaluate these issues.

In conclusion, the Commission staff strongly reiterates its request for a one-month extension of time for Commission to review this consistency determination. Thank you for your consideration of this request. If you have any questions, please contact James Raives at (415) 904-5292.

Sincerely,

A handwritten signature in dark ink, appearing to read "Peter M. Douglas", followed by the word "(for)" in parentheses.

PETER M. DOUGLAS
Executive Director

cc: Mark Delaplaine, California Coastal Commission
Charles Lester, California Coastal Commission

CCC Exhibit H
(page 1 of 2 pages)

Dan Carl, California Coastal Commission
Sarah Cameron, Corps of Engineers
Paul Rodriguez, Santa Cruz County, Department of Public Works

CALIFORNIA COASTAL COMMISSION

CENTRAL COAST DISTRICT OFFICE
725 FRONT STREET, SUITE 300
SANTA CRUZ, CA 95060
PHONE: (831) 427-4863
FAX: (831) 427-4877



March 6, 2001

Kim Tschantz
Santa Cruz County Planning Department
701 Ocean Street, Suite 400
Santa Cruz, Ca 95060-4073

Subject: *Notice of Preparation for Proposed Pleasure Point Seawall and Parkway Project*
(County Application Number 00-0797; SCH# 2001012097)

Dear Mr. Tschantz:

Thank you for forwarding the above-referenced Notice of Preparation (NOP) to our office for review. As the NOP indicates, and as the Applicant is aware, a portion of the proposed project appears to be located within the Coastal Commission's retained coastal permitting jurisdiction. The remainder of the proposed project is located within the County's coastal permit jurisdiction; any coastal permit decision by the County here would be appealable to the Coastal Commission. In general, the scope of the proposed Draft Environmental Impact Report (DEIR) appears sufficiently inclusive to allow for an analysis of coastal resource issues when the Coastal Commission reviews the coastal development permit application (for that portion of the project within the Commission's retained jurisdiction), and/or reviews any appeals of the County's ultimate coastal permit decision. There are, however, some specific areas that need clarification. We have the following comments on the NOP; we will provide additional substantive comments when we have seen the DEIR.

Firstly, we are extremely supportive of efforts to improve the East Cliff Drive corridor running from roughly 32nd through 41st Avenue. This area, though heavily used by the public for physical and visual coastal access, is clearly in need of improvements to enhance the public coastal recreational experience. East Cliff Drive along this stretch is currently dangerous for pedestrians and bicyclists, offers little in the way of formal amenities, and is aesthetically cluttered. Notwithstanding these shortcomings, the East Cliff Drive corridor here remains an important coastal resource primarily because of the amazing coastal vista afforded the public here. The County should be applauded for pursuing such an extensive set of access enhancing features atop the bluff within the existing East Cliff Drive road prism. While we have a few suggestions on additional DEIR topics and issues for the portion of the project atop the bluff (as described below), clearly the park and parkway improvements would be a substantial public access benefit.

That being said, the project also includes a seawall that raises a host of coastal resource issues. In general, and as the NOP alludes to, seawalls, revetments, cliff retaining walls, groins and other such structural or "hard" measures designed to forestall coastal erosion can adversely alter natural shoreline processes. Such shoreline protection structures can have a variety of negative impacts on coastal resources including adverse affects on sand supply, public access, water recreational activities, coastal views, natural landforms, and overall shoreline beach dynamics on and off site, ultimately resulting in the loss of beach. As a result, all such applications must be carefully examined for consistency with the Local Coastal Program (LCP) and the Coastal Act. To consider a seawall here under the applicable policies (including LCP Policies 5.10 et seq,

6.2.16, Chapter 7, Zoning Sections 13.20.130 and 16.10.070(h)(3), and Coastal Act Chapter 3 including but not limited to Sections 30210, 30211, 30235, 30240(b), 30251, and 30253), it must be clear that:

- (1) There are structures in danger from ongoing erosion. To conclusively show that an existing structure is in danger from erosion, there must be an imminent threat to such structures. While each case is evaluated based upon its own merits, the Commission has generally interpreted "imminent" to mean that a structure would be imperiled in the next two or three storm cycles (generally, the next few years). The NOP appears to adequately describe these issues. Please ensure that the DEIR clearly identifies the endangered structures and provides adequate information to determine the nature of the threat to each of them (including a timeline as appropriate detailing the time until such structure(s) would be expected to be lost absent the proposed project).
- (2) Shoreline armoring is the only solution capable of providing protection to the so-endangered structures. In other words, there must be a thorough analysis of methods to protect existing structures so threatened through non-armoring alternatives (e.g., no project alternative, relocating the endangered structures, upper bluff landscaping and drainage control mechanisms, combinations thereof, etc.). With that in mind, in addition to alternatives (11a) through (11d) listed in the NOP, please have the DEIR evaluate a non-armoring alternative that would locate the blufftop parkway improvements to the extreme inland extent of the East Cliff Drive right-of-way and include some form of upper bluff landscaping and/or retaining walls in place of a seawall at the base of the bluffs here. Please also be sure to evaluate the relocation of utilities under the auspices of the "no project" alternative.
- (3) The required protection is designed to eliminate or mitigate the adverse impacts on shoreline sand supply. The NOP indicates that sand supply issues have been defined. Please ensure that the DEIR specifically quantifies (in cubic yards of sand) the amount of sand and/or sand generating materials that would be blocked from entering the shoreline sand supply regime by all elements of the project.
- (4) All other negative resource impacts are eliminated or mitigated. The NOP clearly identifies several known issues and it appears that the DEIR should thus mostly include adequate information to understand project impacts and potential mitigations. We would recommend, however, that the DEIR include an expanded discussion of potential impacts to the Pleasure Point surfing regime from any sort of armoring project. Whomever performs such additional analysis should be well versed in the subject of armoring and its impact on wave dynamics. We would also recommend that the DEIR include photo simulations with and without the proposed development here as seen from public viewing areas, including views from several vantage points atop the bluff as well as from representative vantage points in the surfing area and from outside of the surf line in the Monterey Bay.

In sum, the DEIR should provide adequate information and analysis to be able to clearly determine that the chosen proposed project is the least environmentally damaging feasible alternative to protect the so endangered structure(s) from ongoing shoreline erosion. The NOP should be sure to expand upon this common thread in such a way as to be able to compare

potential alternatives to a seawall accordingly.¹ In addition to the suggestions above, we also have the following specific requests for information necessary to measure the proposed project for Coastal Act and LCP conformance; please ensure that the DEIR evaluates the following:

- The preliminary plans provided indicate that public improvements would not be pushed to the inland edge of the East Cliff Drive right-of-way in most cases. As a public improvement project, the DEIR must carefully explain each instance where the public right-of-way would remain encumbered by private development. We suggest that a site plan be developed in the DEIR that clearly indicates all public right-of-way area within which private improvements would remain and/or within which additional improvements would be constructed that would be for private benefit as part of the proposed project (for example, the preliminary plans show construction of a looped private driveway located entirely in the right-of-way between 38th Avenue and Larch Lane). Each such area should be identified in terms of the square footage of public right-of-way that would be so encumbered, the public cost of any improvements to be made in that area as part of the project, and discussion of alternative public uses that could be accommodated within the area(s) in question. The DEIR should explore the possibility of adjusting the right-of-way boundary to exclude any right-of-way areas not necessary for public improvements, and offering for sale or lease the so-excluded area to adjacent private landowners.
- A full one-half of the residence on the seaward side of East Cliff Drive between 38th Avenue and Larch Lane is located within the East Cliff Drive right-of-way. The DEIR should evaluate the relative feasibility of methods to address this problem including, but not limited to: acquisition of the adjacent private parcel (on which the other half the residence is located) and use of the property for public purposes; parcel line adjustment and sale of former right-of-way area to private landowner so that the subject residence is on private property; lease or fee payment for continued private use of the subject right-of-way area; and/or other mitigation in favor of the public to compensate for the potential public uses of the property that are being foregone and the public view blockage that is due to residential development in the right-of-way. The preliminary plans also show a large looped driveway in this area and the roadway pushed inland at the expense of potential public improvements (i.e., at the expense of a wider public trail, increased landscaping, additional on-street parking bays along the inland side of East Cliff Drive, etc.). Such a private use of the public right-of-way here is inconsistent with the LCP and the Coastal Act. The DEIR should identify a preferred resolution strategy for this site. Likewise, but to a lesser extent, the preliminary plans show that private development in the right-of-way is taking precedence over potential public right-of-way uses in front of the residence across from Larch Lane on the seaward side of East Cliff. The DEIR should develop a similar resolution strategy for this site as well.
- It appears that additional right-of-way space is available to create parking bays on the inland side of East Cliff Drive (noted areas include space near Larch Lane, upcoast of 38th Avenue,

¹ Please note that the Applicant was previously provided with a document prepared by Commission staff titled "BEAR: Beach Erosion and Response Guidance Document" (dated December 1999). The BEAR document provides additional context for evaluating shoreline armoring proposals and may prove useful in preparing the DEIR. Please consult the Applicant and/or we can provide another copy of the document as necessary for DEIR purposes.

upcoast of 37th Avenue, and between 33rd and 36th Avenues). The DEIR should evaluate the potential for additional parking bays (diagonal and/or parallel parking) on the inland side of East Cliff Drive and make recommendations on modifying the project to include additional parking.

- Is alternative access available for residences located along East Cliff Drive? That is, can the homes along East Cliff be accessed by the Avenues and/or alleyways to avoid conflicts should driveways be reconstructed on East Cliff Drive? If alternative access is not currently available, please also evaluate the potential for developing alternative access to avoid East Cliff Drive conflicts.
- The DEIR should evaluate whether a narrower roadway for reconstructed East Cliff Drive is feasible consistent with County and/or Caltrans road design standards. The narrower road prism would allow additional space to accommodate preferred uses (i.e., wider recreational trail, additional parking bays, etc.) and would help to calm traffic through this stretch.
- The DEIR should evaluate the option of designing the recreational trail to step down the slope where the asphalt pathway for wheeled recreational use is nearest the road, and the decomposed granite pathway for pedestrians is located towards the bluff edge at a slightly lower elevation; between the two pathways would be a landscaped strip. The project Applicant previously identified this a potential design. Such a design would act to better alleviate user conflicts.
- The preliminary plans and the NOP are not clear on how commuter (i.e., fast-moving) bicyclists might be accommodated by the project. Since East Cliff Drive would consist if slow-moving traffic along this stretch of road, particularly with the traffic calming features proposed and the potential for a narrower roadway prism, it would seem reasonable to assume that commuter bicyclists moving in the same direction as the one-way traffic (regardless as to chosen direction) would be able to use the full roadway with limited vehicular conflict since they would be travelling at roughly the same speed. However, commuter bicycle traffic moving the other direction (i.e., the opposite direction of the one-way traffic) would be forced onto the recreational trail increasing the potential for conflict with slower moving trail users. The DEIR should evaluate the potential for the use of a contra-bike lane (i.e., a bike lane striped for bicyclists to move against the traffic flow) with the proposed project.
- The NOP does not clearly indicate the design characteristics of any guardrail that might be located along the proposed recreational trail at the bluff's edge. Would the proposed guard rail be see-through or would it block the public view here? Please ensure that the DEIR provides sufficient detail regarding the proposed guard rail to be able to evaluate viewshed blockage issues. Such an analysis should evaluate several potential designs and materials (e.g., wood versus metal) for their contribution to both blufftop aesthetics and view blockage. The DEIR should also evaluate whether pedestrian safety can be assured through some other means than a view-blocking or view-altering guard rail (for example, through the use of landscaping and low landscape berms).
- The preliminary plans and the NOP do not indicate the types of signs that are proposed. The

DEIR should describe the type and number of signs proposed and make recommendations to consolidate and/or eliminate signs to avoid visual clutter where possible. Also, it has been the Commission's experience in the past in the Live Oak beach area that there are many privately posted signs restricting public parking (for example, 'no parking', 'tenant parking only', etc.). The DEIR must evaluate the project in terms of the signs proposed, existing, and/or expected at the parking areas to ensure that the public is able to make unencumbered use of public parking spaces in the public right-of-way.

- The DEIR should evaluate all runoff in terms of its potential to degrade water quality. Urban runoff is known to carry a wide range of pollutants including nutrients, sediments, trash and debris, heavy metals, pathogens, petroleum hydrocarbons, and synthetic organics such as pesticides. Urban runoff can also alter the physical, chemical, and biological characteristics of water bodies to the detriment of aquatic and terrestrial organisms. The NOP indicates that the proposed project would include standard silt and grease traps to filter runoff from East Cliff Drive. However, project runoff would be directed into the Monterey Bay National Marine Sanctuary at the site of one of the State's more famous – and heavily used – recreational surfing areas (i.e., Pleasure Point) directly offshore. The Sanctuary is home to some 26 Federal and State Endangered and Threatened species and a vast diversity of other marine organisms. Pleasure Point attracts surfers from far and wide to tackle the consistent line of surf wrapping around the headland and heading downcoast to Capitola here. As such, the marine and recreational resources involved with the proposed project are sensitive coastal resources that are of state and federal importance. Accordingly, the DEIR should evaluate additional filtration and treatment options that could be used in place of standard silt and debris traps; these standard silt and debris traps act as sediment holding basins and the efficacy of such units has been suspect in the Commission's experience. Units chosen for comparative evaluation should be capable of both active filtration and active treatment of runoff. The DEIR should also recommend a complementary suite of best management practices (i.e., street sweeping, long-term maintenance, etc.) designed to increase the efficiency and effectiveness of the proposed chosen filtration/treatment system. Such a system should be clearly identified on a DEIR site map with all outfall locations marked. The DEIR should include an assessment of the costs of installation and maintenance for the alternative filtration/treatment systems evaluated.
- The NOP indicates that no biotic assessment has been or will be drafted for the proposed project. Given the potential construction impacts of heavy equipment activity in the intertidal zone, the NOP indicates that the DEIR will provide information on any potential biotic impacts to intertidal resources during the project construction period; it may be that a separate biotic assessment will be necessary for this purpose. In any case, we expect that the DEIR will identify potential construction management practices to avoid and/or lessen any such impacts identified.
- The DEIR should evaluate the extent that planting pockets within the proposed seawall can be used to soften the visual impact without compromising the integrity of the wall surface. For these, and for other planting areas (e.g., the bluff edge cascading landscaping), the DEIR should recommend appropriate plant species designed to withstand drought and salt water, and to best contribute to bluff stability.

- The preliminary plans and the NOP are unclear on how the proposed recreational trail improvements would be integrated with existing trail improvements where 41st Avenue meets East Cliff Drive. As we expressed previously when the Hook parking lot improvements were proposed, it seems dangerous to direct recreational trail users across traffic at this location, creating conflicts that would be unnecessary with alternative designs. It seems to make better sense to provide a continuous recreational trail on the seaward side of East Cliff Drive as it wraps up East Cliff and extended towards Capitola along Opal Cliffs. The DEIR should evaluate the potential for modifying the trail and road improvements at the East Cliff Drive 41st Avenue intersection to allow for a continuous recreational trail on the seaward side of the street.
- The preliminary plans and the NOP are unclear on the characteristics of the recreational trail at Pleasure Point Overlook Park between 32nd and 33rd Avenues. The DEIR should evaluate means for ensuring connectivity between the path and the park, as well as connectivity with potential future recreational trail segments that would be constructed on East Cliff Drive extending upcoast towards the City of Santa Cruz. In other words, the recreational trail should not be designed as an endpoint here, but rather should be developed with this future connection in mind so that a seamless connection is possible when this future trail segment is ultimately developed. Absent planning for this eventuality now, this connecting segment may require unnecessary demolition and reconstruction of the trail and other streetscape improvements in this area when the future upcoast trail segment is constructed; the DEIR needs to evaluate project modifications to avoid such unnecessary public expense and inconvenience.
- The DEIR should evaluate the feasibility of placing the existing overhead utilities underground for this particularly scenic stretch of East Cliff Drive.

Thank you for the opportunity to comment on the NOP. With the clarifications described herein, we expect that the DEIR document will provide a sufficient level of detail to allow for a careful analysis of the project for Coastal Act and LCP policy conformance issues. We look forward to reviewing the draft EIR and we are prepared to give you additional comments at that time.

If you have any questions, please do not hesitate to call me at (831) 427-4893.

Sincerely,



Dan Carl
Coastal Planner

cc: First District Supervisor Jan Beautz
Tom Burns, Director, Santa Cruz County Redevelopment Agency (Applicant)
Barry Samuel, Director, Santa Cruz County Parks Department
Rachél Lather, Project Planner, Santa Cruz County Planning Department
Tim Duff, Project Manager, California Coastal Conservancy
Linda Locklin, Manager, California Coastal Commission Public Access Program
Katie Shulte Joung, Project Analyst, State Clearinghouse (SCH# 2001012097)

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May 12, 2003

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Claudia Slater
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Subject: Combined Draft Environmental Impact Statement and Draft Environmental Impact Report (DEIS/DEIR) for the Proposed Pleasure Point Parkway and Seawall Project in the Live Oak area of Santa Cruz County (SCH# 2001012097)

Dear Ms. LeTelleir and Ms. Slater:

Thank you for forwarding the above-referenced DEIS/DEIR document to our office for review. The Commission will rely in part on the information and analysis contained in this document for its review of the project. Accordingly, these comments primarily highlight areas where the DEIS/DEIR is lacking information and/or includes confusing information. As appropriate, directive comments are provided as well. Please note that these comments are preliminary in nature and based upon our limited initial review to date. Additional detailed written comments, particularly as they relate to the seawall portion of the project, may follow. We may also have follow-up comments depending on the nature of the final environmental document and responses to comments contained therein. Because our Notice of Preparation (NOP) comments do not appear to have been tracked directly in the DEIS/DEIR, they are provided here as an attachment. Please consider the following:

Process

- (1) The project includes shoreline armoring and road improvement components. Although obviously interconnected as a "project," the coastal review process is segmented due to the Army Corps of Engineers (ACOE) involvement. As we currently understand it, the shoreline armoring is an ACOE project and the road improvements are a Santa Cruz County project. The ACOE portion of the project requires a consistency determination, and the County portion requires a coastal development permit (CDP). These two processes are very different. That said, the DEIS/DEIR is unclear as to what does and does not require County and/or Coastal Commission permits and (for the County) EIR certification (see, for example, Table 2-5 and Section 3.1.2). The DEIS/DEIR appears to imply that the County must certify the EIR for the project (ostensibly the entire project) and approve an appealable CDP, and that the Commission must approve a CDP for the seawall and any other armoring

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in the project area. The document also indicates in multiple locations that the ACOE would be submitting plans to County planning for review and approval (e.g., for visual mitigation components). However, discussions that we have had with the ACOE indicate that it is the ACOE position that the seawall portion of the project does not require County EIR certification or other approval, and does not require a County or Commission coastal permit, because it is a federal agency project. Please provide clarification on project distinctions (County versus ACOE proposed), and the process for all aspects of the project as it relates to coastal permits, consistency determinations, CEQA, and County approvals at a minimum. Any difference in process for different parts of the project must be clearly identified.

- (2) It is unclear what the disposition of the Hook portion of the project would be following the culmination of this NEPA/CEQA process. Would this be a County project? An ACOE project? What further reviews, approvals, certifications, et cetera would be required for this portion assuming the EIS/EIR is certified? See also similar question above. Please provide clarification.
- (3) Similar to the coastal permit and CEQA confusion, the DEIS/DEIR indicates that a lease would be required from the California State Lands Commission. However, ACOE has indicated to us that a lease is not necessary even if State Lands are involved. Please provide clarification.

Alternatives

- (4) Alternative 4 is identified as a "no armoring" project. This is a misnomer. This alternative includes concrete groins and related concrete notch filling and, as such, is armoring. In addition, the visual simulations of this alternative indicate that the Corps/County would install a large revetment near the terminus of 35th Avenue to protect the replacement stairway in this option. Please correct the document to indicate that this is not a no-armoring alternative.
- (5) The DEIS/DEIR evaluates 4 armoring alternatives, and the no project alternative. We are concerned that the DEIS/DEIR has not thoroughly developed nor evaluated an appropriate set of alternatives to the proposed project and that, as a result, the Commission's decision making process – a process that focuses very much on alternatives evaluation – will be significantly hindered. We believe that there are other alternatives that have been omitted from consideration that must be evaluated, including several variations of the "no project" alternative. These include: (a) evaluation of a planned retreat strategy for this section of coast; (b) regional beach nourishment programs; (c) corrective measures to improve the transport of sand around the Santa Cruz Harbor jetties, and potential modifications to the jetties themselves; (d) enhanced management of blufftop terrace deposits through vegetation and drainage controls and relocation of threatened structures to the inland extent of right-of-way, with pathway improvements installed along the inland extent of right-of-way, and road prism reduced in width to the extent feasible and either relocated as far inland as possible or removed in its entirety (i.e., closed to through traffic); and (d) combinations and permutations of all of these. We are available to help develop the range of options and

permutations to be analyzed.

- (6) There is a lack of detail regarding the degree of threat to existing structures (please see our NOP comments attached on this point). The DEIS/DEIR assumes a degree of danger to blufftop roads, amenities, and utilities, but uses unclear and internally inconsistent terms to define this threat (such as 'eventually,' 'in 25 years,' 'in 50 years,' 'in the near future,' 'within the 100-year planning period,' etc.) and lacks specificity on when such structures would be expected to be lost and/or imperiled absent the project. The DEIS/DEIR lacks scaled plans indicating the location of the structures intended to be protected and their relation to property lines and the inland road right-of-way. It also appears to be missing a quantitative slope stability analysis meant to describe threat in terms of factors of safety and potential failure planes. It must be clear what structures are in danger, where they are located, why they are in danger, and the degree to which they are in danger (i.e., length of time until they would be undermined/lost). Please add such details, including clear site plans and elevations for illustration, to the document and identify all underlying assumptions and conclusions.
- (7) The DEIR/DEIS indicates that the rubble and rip-rap could not be removed in a "no project" alternative. This is incorrect as it could be removed should the County and/or ACOE pursue such a project independently from this project, or as a permutation of the no project alternative. To the extent the project area rubble and rip-rap has been recognized by all required coastal permits (see below), it may be beneficial for public safety, recreational use, and protection of the bluff (from rocks and rubble acting as battering rams in storms) to remove the project area rubble and rip-rap. Please include an evaluation of this option either independently or as an element of other "soft" alternatives considered (see also above).
- (8) Figure 1-2 shows a 60 year erosion hazard line. Unfortunately, it is at such a gross scale as to make it extremely difficult to use for evaluation of project options. Please provide figure 1-2 at a scale that allows this line to be seen in the context of the right-of-way and structures in/adjacent to it.
- (9) The DEIR/DEIS indicates that the rubble and rip-rap would not be removed in the groin alternative (alternative 4). We do not understand why the rip-rap and rubble would not be removed in this armoring scenario. Please explain and evaluate a modification to this alternative that removes the rip-rap and rubble from the project area.
- (10) Alternative 4 describes "fully charging" the groins with sand so that they do not reduce the quantity of sand that would otherwise make its way to downcoast beaches. However, the DEIS/DEIR omits details on why this would be the case. Please explain how and why initial charging of the groins with sand would be expected to protect downcoast beaches from loss of sand due to groins, particularly over the long term given that storms will eventually scour all of the 'charged' sand initially placed.
- (11) The DEIR/DEIS indicates that funding for the project has been provided by the ACOE, the Department of Boating and Waterways, and Santa Cruz County. It is our understanding that

the State Coastal Conservancy also has committed a significant amount of funding specifically for the blufftop improvements. Please clarify. Please also specify how much funding is being provided from each source, and any limitations placed on the use of any particular set of funds (e.g., if the Conservancy funds can only be used for blufftop access improvements, and not for armoring, please indicate as much). To the extent funding deficiencies are identified for any particular alternative evaluated, please include an analysis of potential sources for augmentation funds (including augmentation from existing sources).

- (12) The visual simulations for alternatives 2, 3, and 4 indicate that there would be a substantial revetment constructed near the terminus of 35th Avenue at the replacement stairway. Please clarify whether this is part of these project alternatives. If so, please identify alternatives to avoid placing rip-rap in this area including, but not limited to, deep pier caissons supporting the stairs and/or the use of concrete stairs at the stairway's base. This same comment applies to those portions of other alternatives that include revetment components.
- (13) Please provide additional information as to why the Corps/County expect terrace deposits to fail and retreat in the manner identified for alternatives 2 and 3 in section 6.2 (i.e., where the terrace deposits continue to rapidly erode when the purisma has been armored, leaving a purisma 'bench' of sorts). In addition, the DEIR/DEIS concludes that the terrace erosion would be significant and unavoidable in each case. However, the DEIR/DEIS does not contain adequate information to make this conclusion. There appear to be a number of mitigation measures that the Corps/County could implement to help slow erosion. These include better controlling drainage and planting with deep rooted native plant species in the area where the terrace deposit portion of the bluff lays back from the purisma. Please analyze potential mitigation measures that could be applied to either slow or stop any expected terrace deposit retreat for these alternatives, and the degree of reduced erosion provided by each.
- (14) The effect of alternative 4 on slowing shoreline erosion is not clearly quantified. Please clarify.
- (15) The Corps/County must include in the DEIR/DEIS a quantification of the degree of protection over time offered by each alternative. These analyses should be done to equal levels of detail, including adequate site maps and cross sections showing the various scenarios over time, to allow meaningful comparison of each. Please augment the alternatives analysis with this information.

Existing armoring

- (16) The DEIR/DEIS assumes (as the existing condition) the concrete rubble, rip-rap, seawalls, gunnite, and crib-walls in the project vicinity between 32nd Avenue and 41st Avenue. Although this may be accurate in a physical sense, the Corps/County did not provide corresponding information on the permit status of such structures. Please include information regarding the permit status of existing armoring in the project area. Such information should include the date of initial installation, the configuration at that time, and

all associated permits. The Corps/County should also explain any subsequent changes to the initial configuration. In its analysis, the Corps/County should include site plans and cross sections to clearly depict initial footprints and profiles and/or changes to them. For any armoring in the project vicinity found to lack CDPs, please detail what corrective measures the County/Corps will take to address the lack of required CDPs.

- (17) The DEIS/DEIR states two different figures for the amount of concrete rubble and rip-rap in the project area. In one case, an overall total for both is identified (i.e., a total of 4,000 – 6,000 cubic yards) and in another it identifies 4,000 – 6,000 cubic yards of rubble plus 1,200 cubic yards of rip-rap (i.e., a total of 5,200 – 7,200 cubic yards). Please clarify.
- (18) The DEIS/DEIR indicates that the rip-rap fronting the residence at the terminus of 36th Avenue extends roughly 22 feet upcoast past the residential property line (and presumably onto State Lands and/or County right-of-way). Please provide plans that show all property lines in the project area in relation to existing armoring and the proposed project. Please also provide information on the proposed disposition of any rip-rap or other armoring structures on County property.
- (19) The Corps/County should clearly identify any areas where rip-rap would front the seawall. For any such areas, please provide an analysis of options to avoid placing rip-rap in front of the seawall and/or a discussion of why rip-rap is the only feasible option at those points.

Seawall

- (20) The DEIS/DEIR gives conflicting dimensions for the base of the proposed seawall. In section 2.3, it identifies a footing that extends 5 feet seaward. In section 6.1.11, and to address scour issues, it identifies a 10-foot width. The figures provided are not to scale. Please clarify, and please provide figures (cross sections and site plans) with a scale in feet (metric alone is insufficient).
- (21) Please provide further justification, including any assumptions, for concluding the percentage of beach size material in the bluffs is 46% (as opposed to the 50% or 60% also identified in the literature).
- (22) The DEIS/DEIR indicates that the beach sand contribution from the affected bluff area is 576 cubic yards per year. However, the figures are not clear on this point. First, the sand content of the purisma is not identified. Please clarify. Second, even if the sand content of the purisma is assumed to be 46%, as estimated for the terrace deposits (see also above), and if the 44,000 square foot area of bluff affected is used, and if the estimated 1 foot per year of erosion is used, the resulting calculation is for 749 cubic yards of sand per year. Please provide clarification as well as clear indication of calculations underlying any conclusions. In addition, the DEIS/DEIR indicates that this is not a significant impact, and no mitigation is prescribed. Please note that any such sand impact requires mitigation per the Coastal Act. For use in detailing appropriate mitigation, please include cost estimates for obtaining a like amount of similar quality sand and delivering it to the project site on a yearly basis (see also

our NOP comments on this point).

- (23) The DEIS/DEIR identifies expected bluff retreat scenarios for the alternatives considered (in section 6.2). However, this analysis does not include a similar description of expected shoreline retreat (i.e., erosion of the shoreline, including sand and purisma), located in the area seaward of the current bluffs. The DEIS/DEIR analysis, and the figures provided, appear to hold this as a constant. Please provide additional information analyzing expected shoreline erosion seaward of bluff for the alternatives evaluated.
- (24) The DEIS/DEIR indicates that wave run-up elevations are not well understood, but that this is not a significant issue for the full seawall alternative because it is unlikely to occur given the height of the wall proposed. Such an evaluation is backwards inasmuch as the wave run-up elevation is what is typically used as a design parameter for identifying the height of the seawall. Depending on the wave run-up elevation, it could be that a shorter wall would protect against overtopping. Such a scenario could result in less of the bluff being covered with armor (in the a full armor alternative), and lessened coastal resource impacts. Please clarify wave run-up calculations, assumptions and estimates for use in designing a seawall alternative, and the minimum height necessary as a result of same.
- (25) Please provide feasibility and design information on an option where the inset stairways are incorporated into shotcrete wall components that extend up to the railing height on their seaward edge so that the railings themselves along the stairs are not visible from the seaward side.
- (26) Please provide feasibility and design information on an option where a useable pathway is created within the base of the seawall (e.g., atop the purisma) that could be used for lateral access at times of higher tides.

Surfing

- (27) The DEIS/DEIR includes very little analysis of the expected effect of the armoring on the offshore surf break in concluding that it will be unaffected by the project. In addition, such analysis appears to be focused only on the immediate short term impact, and does not evaluate the effects in the long term. This is particularly important in this case since the seawall would ultimately fix the location of the back beach on an actively eroding shoreline, culminating in the expected loss of dry beach (at any time of the year) at the base of the then armored bluffs. Because of the high value of the surf resource at this location, it is incumbent on the DEIS/DEIR to conclusively support conclusions drawn regarding impacts to surfing resources. Please provide an enhanced analysis of expected impacts to surfing over the short and long term. Such analysis should include, but not be limited to, evaluation of expected changes to offshore bathymetry and sea level over time. See also our NOP comments.
- (28) The existing stairs near 35th Avenue would be moved slightly upcoast. It was our understanding that the existing stair location provides a critical exit point for surfers during

times of heavy swell. A new location upcoast may be too far upcoast to prove useful for exiting surfers (because they would be deposited too far downcoast to use the stairway and be stuck in the rip-rap fronting the private residence at 36th Avenue). Please provide evaluation of whether the stairway is appropriately sited in this regard (and whether alternative siting is appropriate).

- (29) It appears that there may be the potential for creating "goat trails" within the seawall to provide for emergency exiting (from the water to the road and/or stairway locations) for surfers forced against the seawall base but not adjacent to a stairway. Please include evaluation of a project permutation for the full armoring alternative that includes such trails.

Parkway Improvements

- (30) We do not understand why the full extent of the right-of-way on the inland side of East Cliff Drive is not being used for public improvements (see DEIR/DEIS Figures 2-5a, b, and c). The DEIR/DEIS does not include information on why this is the case, and does not evaluate the effect of not using this public land area for public – as opposed to private – purposes. This is particularly puzzling when the primary purpose of the project is to protect the right-of-way (see DEIR/DEIS Section 1.3). All project permutations and alternatives should be premised on using the full extent of the right-of-way to the maximum degree possible, and evaluated accordingly. This is particularly the case when there is a finite amount of right-of-way space available, and much of the project, including the seawall, is driven by the limited space and the ability of it to provide for the range of desired public services. Please see our NOP comments on this point.
- (31) The DEIR/DEIS omits details relating to the private residential development on the seaward side of East Cliff Drive as it relates to the right-of-way. Instead, all that is shown in the figures is a notation that there exists a private residence at these locations. More precise information as to the nature and location of such private structures is critical for understanding where space may exist for siting public improvements. Please add detail on this point, and please identify all private property lines (see also our NOP comments).
- (32) It appears that there may be adequate space to site most of the parking spaces along the inland side of East Cliff Drive, and potentially some along the seaward side of East Cliff Drive where there is space between East Cliff Drive and the private residences. Please evaluate the potential for siting parking spaces in this manner, and using the full right-of-way to do so (see comment above), with the intent being to maximize parking while protecting through views towards the sea. Such an evaluation should include evaluation of the potential for slight adjustments to the road prism to create useable public right-of-way space. For example, there is a right-of-way area between 36th and Manzanita Avenues in particular where this approach may be particularly promising.
- (33) Access requirements for East Cliff Drive-fronting residences are not clear, and their omission makes it difficult to evaluate the parkway improvements. Please add information and evaluation of this point (see also NOP comments).

- (34) Figures 2-5a, b, and c lack a scale from which to measure. Please add a scale in feet (metric alone is insufficient).
- (35) The DEIS/DEIR dismisses under grounding utility lines due to expense, but it does not provide any cost figures. Please provide cost estimates for under grounding overhead utility lines along East Cliff Drive from 32nd through 41st Avenues.
- (36) It seems more likely that shifting East Cliff Drive to a westbound direction would not significantly increase or decrease traffic volumes on the avenues, rather it would reverse their direction since the "looping" phenomena would simply be reversed (for example, the traffic flowing south on 30th Avenue currently would be shifted to northbound). All other things being equal, westbound East Cliff Drive would provide appear to provide a better coastal vista for occupants of vehicles than would eastbound; particularly those checking the surf. Please clarify the assumptions underlying the assessment that traffic volumes would increase on the Avenues as a result of a westbound East Cliff Drive. Please also indicate what project modifications would be necessary should a westbound East Cliff Drive ultimately be the approved project.
- (37) Please evaluate the possibility of increasing the paved wheeled trail component of the multi use path from 8 foot (to 12 or 16 feet, for example) to accommodate better accommodate bicyclists and other users traveling in both directions. The 8 feet proposed seems fairly constrained for the amount of use that would occur in this limited space, particularly given that the contra-flow bike lane is not being pursued. With the full use of the right-of-way, it would appear that there is additional space available for a wider path.
- (38) Please evaluate whether the driven roadway of East Cliff Drive could be narrower than 16 feet and still meet public safety needs. A narrower roadway could act to slow traffic, and preserve more of the right-of-way space for other public improvements.
- (39) We don't understand why the majority of the Hook overlook is to be paved, with a smaller decomposed granite component nearest to the bluff. There appears to be a substantial area of right-of-way available at this location. This area is heavily used as an overlook, more so than as a through trail area, and the right-of-way area should be allocated accordingly. Please include details on a project modification that would reduce the paved area at this park to provide a wider decomposed granite area (with picnic tables, benches, etc.) and a smaller paved multi-use path that is the same width as for the rest of the project area.
- (40) The DEIR/DEIS describes some of the existing parking spaces within the public right-of-way as "semi-private." This is a misnomer. Parking spaces in the public right-of-way are public parking spaces, and have no private connotations. Please correct.
- (41) The DEIR/DEIS describes a series of privately posted signs along East Cliff Drive that attempt to demark public right-of-way parking spaces as private (e.g., "tenant parking only - tow away"). It is not clear whether these signs would be actively removed as part of the project, and whether a continuing program would be instituted to ensure that these signs are

not placed in the future and/or removed if they are placed. Existing public spaces (as identified in the DEIR/DEIS) are currently impacted by these signs that dissuade the public from parking in these public spaces. Public right-of-way spaces should not be encumbered by such signs. Please clarify, and add a mitigation measure to have them removed as appropriate. It may be that affirmative signs, or stencils to reduce visual clutter from too many signs, could be placed indicating that the spaces in the right-of-way are public parking spaces. Please evaluate such an option.

- (42) Please include a detailed site plan for the areas at either end of the project area (at 32nd and 41st Avenue) so that we can understand how the recreational trail transitions will be made; this is particularly the case at 41st Avenue (see also our NOP comments on this point).
- (43) The County previously was considering a split grade path (with the decomposed granite pedestrian trail nearest the ocean and at a slightly lower elevation, separated from the paved multi-use path by a vegetation strip). The DEIR/DEIS dismisses this option because of "severe drainage complications," but these are not explained. Please provide clarification on the nature of such drainage complications, and measures that could be taken to address same should a bi-level pathway ultimately be the approved project. Such a grade separation, even if minor, would help to better prevent user conflicts. In addition, it would help mitigate the visual impact of a straight line railing along the blufftop's edge (since it would be reduced in profile as viewed from the blufftop right-of-way, and it would be viewed against a background of grade separation/vegetation from the water). Depending on the extent of the grade separation/vegetation, it could provide a more organic irregular edge to the project site as seen from the water. It would also reduce the overall height of the seawall (by the amount of grade separation), helping to reduce the overall artificial massing in the viewshed. Please include an analysis of a project permutation that would provide a grade separation and vegetation barrier between the two pathways.
- (44) Please evaluate a project permutation in which the existing number of storm water outfalls are consolidated, and all storm water is filtered and treated (through created biological impoundments and/or engineered structures) to enhance coastal water quality prior to its discharge to the Monterey Bay. The proposed new silt and grease traps are insufficient in this regard.
- (45) There is an existing residence located in the right-of-way between 38th Avenue and Larch Lane, but the DEIR/DEIS is silent on this issue and how this right-of-way project could address it. Please provide an evaluation of options for this site (see also our NOP comments on this point).
- (46) It seems possible that the proposed rolled curb located between the East Cliff Drive roadway and the recreational trail could lead to unintentional safety problems in a worst case scenario (where a car rolled up onto trail users). This area is particularly scenic and drivers can be easily distracted. Please evaluate a project option that includes a standard shaped curb along the trail edge.

- (47) There appear to be significant park-like areas of vegetation located within the public right-of-way adjacent to the residences located on the seaward side of East Cliff Drive at both Larch Lane and 36th Avenue. These areas appear to have been demarked as private, and "wall off" the public from the sea both physically and psychologically. The DEIS/DEIR does not indicate what would be the disposition of these areas with the project. Please evaluate measures that could be taken to return these areas to public use, whether for more active use (path, benches, picnic tables) or even if only as coordinated landscape areas enhancing the sense of public space adjacent to the public path system.
- (48) Please provide representative cross sections of the trail and road improvements.

Visual

- (49) Please provide an analysis of alternative rail designs (for the blufftop edge) that could be used with the objective of enhancing and maintaining through views and coastal aesthetics consistent with public safety requirements. At a minimum, please include wood and cable rail options. Consistent with the mitigation measure prescribed, please indicate areas where it would be feasible to use vegetation as a barrier rather than a railing. Please also indicate whether existing rails at Larch Lane could be retrofitted to be made consistent with the choice of railing ultimately selected to achieve better aesthetic consistency in the project area.
- (50) The DEIS/DEIR includes photos showing that the Hook overlook is bounded on the east by a chain link fence topped with barbed wire. The document does not indicate that this fence would be altered when the Hook overlook improvements would be installed. This fence, particularly the barbed wire, is antithetical to the overlook aesthetic. Please evaluate options for modifying this fence to better approximate the overlook-area fencing and to remove the barbed wire.
- (51) Similarly, the DEIS/DEIR includes photos showing that a large fence exists adjacent to the proposed Pleasure Point Park site. Although this fence appears to be constructed of wood that better approximates the coastal aesthetics, it is oriented in such a way as to block seaward views from the park and stairway. Please also evaluate options for modifying this fence to enhance through visual access corridors.
- (52) Please include an evaluation of adding planting pockets within the seawall at random points to help approximate naturally occurring vegetation (see also our NOP comments on this point).
- (53) Mitigation 5.1 prescribes planting vegetation to help reduce the visual impact of the seawall. Please ensure that any bluff plantings are non-invasive natives. We have a bluff plating species list that may prove useful for this purpose.
- (54) Mitigation 5.1 indicates that the ACOE would submit additional visual mitigation plans to the County Planning Department for review and approval. As with the questions above regarding approval processes for various parts of the project, this should be clarified (e.g.,

the ACOE would be indicating here that there is a local approval necessary).

Other

- (55) Property lines and ownership on the seaward side of East Cliff Drive are not provided. Please add such details to site plans, and their relation to existing and planned developments in the project area.
- (56) The photos in appendix A show what appears to be a large (dumpster-sized) metal container located on a seawall near Larch Lane. Please explain the purpose of this structure, any approvals granted for its placement, and options for removing it from the beach area.
- (57) In discussions, the ACOE indicated that work seaward of the bluff would only take place when and if Monterey Bay waters had receded from the project area, and that a coffer dam was not going to be used. On the contrary, however, the DEIS/DEIR indicates that a coffer dam of sorts (rip-rap with a silt fence) to keep ocean waters out of the project area would be used. Please clarify.
- (58) The EIR/EIS indicates that there would be a loss of intertidal habitat due to the placement of seawall, and that this habitat is considered sensitive under the LCP. Please note that sensitive habitat under the LCP is, by definition, environmentally sensitive habitat area (ESHA) per the Coastal Act. Likewise, the groin alternative would result in fill of Monterey Bay waters and sub-tidal areas that are typically considered ESHA per the Coastal Act. Since the armoring alternatives are within in an area where the standard of review of Chapter 3 of the Coastal Act, please clarify these analyses in Coastal Act ESHA terms.

Cumulative Impacts

- (59) The cumulative impacts discussion in Chapter 15 identifies two large scale armoring projects in the conceptual stages (Opal Cliffs, directly downcoast of 41st Avenue, and Depot Hill), and one smaller scale (Adams at the end of 41st Avenue). Please note several things. First, there are many more individual armoring projects proposed in the general area than identified in the DEIR/DEIS (+- 10 projects), and their outcome is uncertain pending hearings and actions on them by the Coastal Commission. Second, the Adams project was denied by the Coastal Commission last year. Third, the Opal Cliffs and Depot Hill projects involve multiple property owners and are much larger in scale and scope than the any individual project on its own (although the DEIR/DEIS does not appear to make this distinction in scale). Please correct.
- (60) The cumulative impacts discussion in Chapter 15 indicates that that there would be no cumulative impacts to surfing, but lacks an analysis as to why this would be expected to be the case cumulatively. Please provide some analysis supporting this conclusion, including evaluation of long term cumulative impacts (see also comment above on surfing impacts).
- (61) The cumulative impacts discussion in Chapter 15 omits a cumulative impacts analysis and conclusion relating to sand supply and sandy beach resources (see also comments above on

this point). Please provide such a cumulative analysis, particularly as it relates to long term beach retention, in both the immediate project area and larger region, as the bluffs become fixed on an actively eroding shoreline coupled with sea-level rise. Similarly, this issue is omitted in Section 15.4 (the relationship between short-term uses of the environment and its long-term productivity). Please supplement this analysis accordingly as well.

- (62) The cumulative impacts discussion in Chapter 15 omits a discussion of the potential for this project, and decisions made on it, to prejudice decisions made on future projects (for example, the Opal Cliffs and Depot Hill projects). Please add such an analysis.
- (63) Section 15.5 discusses "irreversible and irretrievable" commitments of resources, and describes these as those nonrenewable resources (that would be used in this project) and that future generations would be unable to reverse. Please elaborate on the purpose of this discussion, and please elaborate on actions that may not be physically impossible, but would be extremely difficult to undo in the future should policy and planning dictate at that time (for example, a tied back concrete seawall would be extremely difficult – not impossible, but very difficult – to remove in the future should future generations pursue such a measure).

Thank you for the opportunity to comment on the DEIR/DEIS. We hope that these comments prove helpful, and can be used to develop the scope of information necessary for any Commission decisions on this project. If you have any questions, please do not hesitate to contact me at the phone and address given above.

Sincerely,



Dan Carl
Coastal Planner

Attachment: March 6, 2001 NOP Comments

cc: Tom Burns, Director, Santa Cruz County Redevelopment Agency
James Raives, Federal Consistency Coordinator, California Coastal Commission
Katie Shulte Joung, Project Analyst, State Clearinghouse (SCH# 2001012097)

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CALIFORNIA
COASTAL COMMISSION
CENTRAL COAST AREA

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL OCEAN SERVICE

Monterey Bay National Marine Sanctuary
299 Foam Street
Monterey, California 93940

November 4, 2003

Mr. Charles Lester
California Coastal Commission
Central Coast District Office
725 Front Street, Suite 300
Santa Cruz, California 95060

SUBJECT: California Coastal Commission Federal Consistency Determination for East Cliff Drive Seawall Project in Santa Cruz County, within the Monterey Bay National Marine Sanctuary

Dear Mr. Lester:

The Monterey Bay National Marine Sanctuary has reviewed California Coastal Commission's (CCC) staff report dated October 23, 2003 for the Federal Consistency Determination of the US Army Corps. of Engineer's (USACE) East Cliff Drive Seawall Project for the area between 32nd and 36th Avenues in Santa Cruz County.

This comment letter to the Coastal Commission does not in any way obviate the USACE of the need to consult as required by the National Marine Sanctuaries Act 16 U.S.C. 1431 ET. SEQ., as amended, §304 (d)(A) which requires that Federal agency actions internal or external to a national marine sanctuary, including private activities authorized by licenses, leases, or permits, that are likely to destroy, cause the loss of, or injure any sanctuary resource are subject to consultation with the Secretary. Alteration of the seabed is prohibited under Sanctuary regulations, and Sanctuary consultation is required before commencement of this proposed seawall construction. As of the date of this letter, consultation with the Monterey Bay National Marine Sanctuary (MBNMS) has not been initiated by the USACE.

The CCC staff have shown incredible diligence towards this project and the issue of seawalls within the County of Santa Cruz. The beaches of Santa Cruz County are a popular destination for those interested in accessing the Nation's largest marine sanctuary. Protecting beaches and other public resources are a significant reason the public demanded, and ultimately the U.S. Congress agreed to designate the Monterey Bay National Marine Sanctuary in 1992.

The Final East Cliff Drive Bluff Protection and Parkway Environmental Impact Statement and Environmental Impact Report was received in our office on October 10, 2003. Though these NEPA documents weigh in at a staggering nine pounds, we were somewhat dissatisfied with the final content as it pertains to the analysis of alternatives.

CCC Exhibit
(page 1 of 4 pages)



The US Army Corps of Engineers is proposing to construct an 1,100 linear foot sculpted concrete seawall fronting the bluff seaward of East Cliff Drive in the Pleasure Point region of Santa Cruz County. This project, which is expected to cost approximately \$7,000,000 of taxpayer funds, would occupy roughly 9,700 square feet of beach area. This seawall is meant to protect East Cliff Drive including the preservation of vehicular traffic as well as the pedestrian & bicyclist recreation trail area and the public utilities embedded below it. As stated in past correspondence to the CCC, MBNMS staff have growing concerns about the extensive armoring of the shoreline within our 276-mile jurisdiction at the sea-land interface, and specifically for the purpose of protecting roads that may be able to be relocated inland.

As stated in the comment letter that the Monterey Bay National Marine Sanctuary (MBNMS) supplied on the Draft Environmental Impact Report on May 12, 2003 the MBNMS supports the "No Action Alternative", which would likely result in closure or damage to the road within fifteen years. The bluff retreat rate for this area has been estimated to be approximately one foot per year. As the DEIR suggests, adjacent houses would not be in danger of eroding for at least 50 years (as illustrated in figure ES-1 in the Draft Environmental Impact Report).

Adoption of the "No Action Alternative" would allow for the continued uninterrupted natural littoral processes, would continue to provide shoreline access for the general public, while ensuring that property owners are not in immediate danger of losing their homes to the forces of erosion. The FEIR correctly projects that the proposed seawall project will eventually "fix" the bluff location on an eroding shoreline, and will eventually result in the loss of the beach and offshore surfing area. The MBNMS supports reversing the trend towards increased armoring of the California coastline. A key way to reduce this impact is to prevent the need for these seawall structures by removal or relocation of roads and utilities prone to the forces of erosion.

Among the seawall options considered, the MBNMS would consider supporting the environmentally superior alternative to building and installing a full bluff armoring concrete seawall—"Alternative Three, Partial Bluff Armoring with Limited Parkway Improvements". This alternative would armor only the bottom portion of the bluffs to protect them from erosion—the top of the bluffs would not be armored. No new retaining walls would be constructed, and no repairs would be made to existing upper crib retaining walls. This alternative would alleviate, to some degree, MBNMS concerns regarding sand supply contributions, and the increasing trend in hardening of the shoreline.

The USACE is asking the Commission to conditionally concur with a Federal Consistency Determination for the Full Bluff Armoring Concrete Seawall which would allow for the construction of the proposed seawall. The MBNMS urges the Commission to weigh this matter carefully.

The MBNMS finds the environmental documents lacking in that every alternative outlined in the DEIR and FEIR is comprised of armoring of some sort, with the exception of the "No Action Alternative". As stated in the CCC staff report, there may be a combination of alternatives that could help lessen the short-run danger to existing structures at this location without resorting to the use of shoreline armoring. We

strongly recommend a more comprehensive, less invasive, set of alternatives that would meet the purpose and need of the proposed project be presented prior to a decision. For example, perhaps potential additional alternatives for further examination could include a combination of "soft" soil retention solutions—such as plantings aimed at keeping sediment in place, better run-off and drainage strategies, paired with minimal armoring.

The MBNMS May 12, 2003 correspondence to the USACE recommended a more thorough analysis of the impacts to the recreational wave breaks at the Pleasure Point location. MBNMS staff were disappointed that that this aspect of the project design did not reach fruition in the Final EIS. Therefore, should the Commission conditionally concur with the Consistency Determination, the MBNMS supports the CCC requirement that prior to commencement of construction the USACE shall submit a plan for monitoring impacts of the seawall on the Pleasure Point surfing area for as long as a seawall remains in existence. The MBNMS supports the notion of enacting reasonable remediation and or compensatory mitigation measures which shall be identified should the monitoring indicate that surfing quality has decreased.

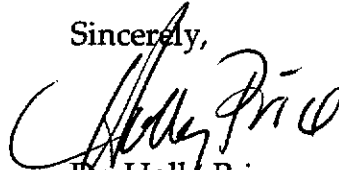
The MBNMS is also in support of the Water Quality Condition 2A, which would be applied to ensure that all runoff is collected, filtered, and treated, consistent with the commission's typical water quality improvement requirements. We agree with the CCC findings that runoff that flows directly to the Monterey Bay could negatively impact marine and recreational resources.

Looking beyond the specifics of this particular project, recently the MBNMS has been involved in the issue of coastal armoring as part of the congressionally mandated update of the Sanctuary's Management Plan. The MBNMS has developed a draft action plan for coastal armoring. The goal of this action plan is to devise a framework to minimize impacts to Sanctuary resources from coastal armoring throughout the region, while recognizing the issue of protecting private and public property. This action plan recommends developing a more proactive and comprehensive regional approach that minimizes the negative impacts of coastal armoring on a Sanctuary-wide basis. Both the USACE and the CCC have been key agency participants in the development of the MBNMS management plan review process. The Sanctuary hopes the USACE will join our marine protection efforts so that we can better avoid these dilemmas in the future.

The proposed project of full bluff armoring would entail constructing a portion of the seawall in the MBNMS intertidal area which would result in a permanent loss of Sanctuary resources. For the Sanctuary to authorize the construction of this proposed seawall project, the analysis would need to demonstrate that the projects have only short-term insignificant impacts. Since the FEIR did not illustrate this, it is uncertain whether we would ultimately be able to authorize a seawall project and our strong preferences are the "No Action Alternative" or further analysis of soft armoring alternatives as mentioned above. However, we could potentially consider the "Partial Bluff Armoring" alternative, although it is not our preferred option.

Thank you for the opportunity to review the CCC staff report for the Federal Consistency Determination of the US Army Corps. of Engineer's (USACE) East Cliff Drive Seawall Project. If you have any questions regarding our comments please contact Ms. Deirdre Hall in the MBNMS office by phone at 831-647-4207 or via email at deirdre.hall@noaa.gov. Thank you for your cooperation with the Monterey Bay National Marine Sanctuary.

Sincerely,



Dr. Holly Price
Resource Protection Coordinator

cc: Y. Letellier, USACE
J. Armor, NMSP

CALIFORNIA COASTAL COMMISSION

CENTRAL COAST DISTRICT OFFICE
725 FRONT STREET, SUITE 300
SANTA CRUZ, CA 95060
PHONE: (831) 427-4863
FAX: (831) 427-4877



November 7, 2003

Lt. Col. Michael McCormick
United States Army Corps of Engineers
333 Market Street
San Francisco, CA 94105

Subject: **Consistency Determination Number CD-021-03 (Pleasure Point Seawall)**

Dear Lt. Col. McCormick:

On November 7, 2003 the California Coastal Commission unanimously objected to the above-referenced consistency determination. The Coastal Commission determined that the project was not consistent to the maximum extent practicable with the enforceable policies of the California Coastal Management Program (including Coastal Act Sections 30211, 30213, 30220, 30230, 30233, 30235, and 30240). The Commission determined that the Corps had not fully explored all feasible less environmentally damaging feasible alternatives, and had not fully addressed applicable coastal resource issues (including the protection of offshore surfing resources and shoreline sand supply, and whether shoreline-altering armoring was necessary). Findings to support the Commission's decision will be prepared for the Commission's review and adoption at a future date.

If you have any questions, please don't hesitate to contact me at (831) 427-4893.

Sincerely,

A handwritten signature in black ink, appearing to read "Dan Carl".

Dan Carl
Coastal Planner

cc: Santa Cruz County Redevelopment Agency
OCRM

CCC Exhibit M
(page 1 of 1 pages)

CALIFORNIA COASTAL COMMISSION

CENTRAL COAST DISTRICT OFFICE
725 FRONT STREET, SUITE 300
SANTA CRUZ, CA 95060
PHONE: (831) 427-4863
FAX: (831) 427-4877



December 8, 2003

Lt. Col. Michael McCormick
United States Army Corps of Engineers
San Francisco District
333 Market Street
San Francisco, CA 94105

Tom Burns
Santa Cruz County Redevelopment Agency
701 Ocean Street, Room 510
Santa Cruz, CA 95060

Subject: Consistency Determination Number CD-021-03 (Army Corps and Santa Cruz County Proposed Pleasure Point Seawall) Information Necessary for Re-Submittal

Dear Lt. Col. McCormick and Mr. Burns:

As you know, on November 7, 2003, the California Coastal Commission unanimously objected to the above-referenced consistency determination. At that time, the Commission determined that the project is not consistent with the enforceable policies of the California Coastal Management Program (CCMP), in large part due to the inadequacy of information to evaluate the proposed project, including an inadequate analysis of less environmentally damaging alternatives to the seawall proposed. Findings to support the Commission's decision will be presented for adoption by the Commission at its January, 2004 meeting.

The purpose of this letter is to follow-up on the meeting on November 20, 2003 among staff from your offices and Commission staff, including our Executive Director. At that meeting, the Commission's November 7th decision was discussed in detail, including potential options in light of that decision available to the Corps and the County (Project Sponsors) if you elect to continue to pursue a project at Pleasure Point to address erosion issues there. We acknowledge that at the meeting your staffs indicated that they are continuing to evaluate options relative to the Commission's decision, including formal mediation. Separate and apart from other procedural options, we further acknowledge that there appeared to be a willingness on the part of the Project Sponsors to provide additional analysis and information to fill the gaps in the information that was available to evaluate the proposed project at the November 7, 2003 hearing. Toward this end, we discussed these information gaps generally, and Commission staff agreed to prepare a more detailed description of them for your consideration. Please see the attached document for this detailed list.

In terms of process, we also discussed at our meeting the analytic difficulty encountered at the Commission hearing caused by the procedural separation of the proposed armoring project from the proposed road improvement project. Although they are clearly interconnected from a

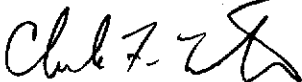
CCC Exhibit N
(page 1 of 2 pages)

physical standpoint, they are artificially separated for purposes of regulatory review by the Corps' involvement with the seawall. This separation makes it difficult to evaluate the whole of the project, and difficult to evaluate the seawall – and alternatives to it – for consistency with the policies of the CCMP. Although we would prefer that the two projects be combined procedurally (as either a combined coastal development permit/consistency determination or as a coastal permit review alone), we acknowledge that the Project Sponsors have indicated that they are not willing to do this at the current juncture, and that they intend to keep the projects on two separate tracks procedurally. In other words, for the foreseeable future, the procedural vehicle will remain a consistency determination for the erosion response project, and a separate coastal development permit application for the road improvement project.

As discussed at the November 20, 2003 meeting, if the Corps intends to pursue a revised consistency determination, then we advise that this take the form of a re-submitted consistency determination, where your existing analysis is supplemented with the additional information and analysis described in the attachment to this letter. The intent would be to provide a more thorough and complete evaluation of your proposed project and potential alternatives to it for the Commission's review at a future hearing. As was discussed, it would be beneficial for our staffs to meet together to facilitate the preparation of additional materials for consideration at a future Commission meeting. We are also available to discuss other processing options in the event that you decide to combine the County and Corps projects and/or proceed in some other way.

I hope that this letter has adequately captured the main points discussed in our November 20, 2003 meeting, and that the attached list proves helpful as you weigh your next steps in this matter. As always, if you have any questions, please do not hesitate to contact me or Dan Carl at (831) 427-4863.

Sincerely,



Charles Lester
Deputy Director

Attachment → STAFF NOTE: SEE EXHIBIT O

cc: OCRM

1. **Non-Armoring Alternative Projects.** There needs to be a more robust evaluation of potential alternatives to armoring, and the degree to which each would provide protection for development from erosion (see also the November 7, 2003 staff report and our DEIS/DEIR comments on this point). At a minimum, the following should be evaluated across the same set of evaluation criteria as the proposed project including, but not limited to: costs (including evaluation of existing and potential funding sources, and the degree to which they can be used to implement each alternative), benefits (including benefits that accrue from preserving natural bluff, beach, and offshore resources), and the degree of protection provided (in terms of expected amount of time until blufftop development would be expected to be in danger from erosion and why – see also Threat Evaluation section below):

- (a) Relocation of the blufftop improvements to a more inland location. This alternative would entail moving East Cliff Drive (ECD) and the recreational trail as far inland as possible (i.e., to the inland side of the right-of-way), limiting the ECD travel lane in width to the maximum extent feasible (any width requirements (of County Public Works, Central Fire District, etc.) relating to this section of ECD, and any criteria requiring that width and/or allowing for adjustments to it should be provided), relocating all or portions of utility lines inland (note that this should be evaluated in at least two ways: one where all lines are moved to the inland extent of the right-of-way, and a second where only the portions of them that are immediately threatened (see also below) are reconfigured and realigned inland). A permutation of this alternative should evaluate closing ECD to through traffic and limiting blufftop improvements to non-automobile recreational trail improvements only. In this latter permutation, any properties that can only gain access from ECD should be identified, and an evaluation of measures that could be taken to provide access to these properties from other than ECD provided. In addition, in this latter permutation, measures should be identified that could provide both general and emergency access to such properties by way of the recreational trail. Finally, this alternative must be evaluated in tandem with, at a minimum, the Vegetation and Drainage Control alternative below and removal of project area rubble and rip-rap.
- (b) Planned Retreat. The planned retreat alternative analysis should be expanded. In particular, the corresponding benefits (that derive from not armoring the bluffs) need to be brought into the evaluation equation. Also, conceptual plans depicting such an alternative over time, and the expected time when each “wave” of rolling retreat (and further property acquisition) would be necessary more clearly identified. This alternative must be evaluated in tandem with, at a minimum, the Vegetation and Drainage Control alternative below and removal of project area rubble and rip-rap.
- (c) Beach Nourishment. This alternative would entail implementing a regional sand supply program to promote beach and sand bar formation in the Live Oak beach area and Capitola (i.e., roughly from the Santa Cruz Harbor to New Brighton State Beach). At a minimum, the evaluation should identify mechanisms (including structural, programmatic, and funding requirements) to increase the amount of sand in the shoreline sand supply system through sand import, and evaluate corrective measures to improve the transport of sand around the Santa Cruz Harbor jetties, and including potential modifications to the jetties themselves. The effect of each potential mechanism on reducing erosion at the project area should be estimated. This alternative must be

evaluated in tandem with, at a minimum, the Vegetation and Drainage Control alternative below and removal of project area rubble and rip-rap.

(d) Vegetation and Drainage Controls. This alternative would entail improving the existing runoff collection apparatus (surface and subsurface) along ECD and extensive planting of native vegetation in the area between blufftop development and the blufftop edge. The feasibility of planting portions of the bluff face itself, particularly less steep sections, should be evaluated, including the use of "soft" structural methods (such as jute netting, geo web, vegetation mattress, etc.) to promote soil and vegetation retention as necessary. This alternative must be evaluated in tandem with, at a minimum, the removal of project area rubble and rip-rap.

(e) Combinations of the Above. This alternative would entail an evaluation of combinations and permutations of each of the above alternatives.

2. **Minimal Armoring Permutation.** For each of the non-armoring alternatives evaluated, there also should be an evaluation of a project permutation where, if there is a small portion of the project area where a significant near term threat cannot be abated by the non-armoring measures alone, then a minimal amount of armoring (e.g., minor sea cave fill, stepped upper bluff retaining wall, etc.) is considered and made part of the alternative. For example, should a relocation alternative provide substantial protection from erosion over almost all of the project area, but there are two critical areas where gullies and sea caves have formed that could threaten portions of the relocated structures in the shorter term, then the effect of adding a minor sea cave plug and/or backfilled retaining wall at the gully should also be evaluated. The intent would be to augment non-armoring alternatives, as necessary, with extremely minor, and pin-pointed, armoring to be able to evaluate the degree to which such minimal armoring measures can increase the feasibility and degree of protection provided by the alternative.
3. **Threat Evaluation.** There needs to be a clearer evaluation and presentation of the degree of threat to existing structures including, at a minimum, separate evaluations for the vehicular portion of the road, the pathway portion of the road, and the subsurface utilities (see also the November 7, 2003 staff report and our DEIS/DEIR comments on this point). It is insufficient to rely solely upon the estimated long-term bluff erosion rate of 1' per year for this purpose. Rather, this figure must be understood in relation to the geologic structure and configuration of the bluff, and the potential for failure of portions of the bluff in episodic events as well as more steadily over the long term. A quantitative slope stability analysis needs to be provided that describes threat in terms of factors of safety, potential bluff failure planes (and where they are located), and largest potential episodic bluff failure events (and where they are located). Information on past episodic bluff failure events in the project area, including locations of same and the nature/size of the bluff loss, needs to be documented. The threat evaluation cannot be extrapolated to the whole project area, but rather it needs to be clear what portions of what structures are in danger and to what degree. Clear site plans and representative cross sections (i.e., both generally and to particularly threatened structures and potential failure planes/areas) need to accompany the evaluation demonstrating expected erosion and/or failure both over time and episodically in relation to structures. All assumptions and methodologies need to be identified. The same threat evaluation needs to be applied separately to the existing condition and to each of the alternatives evaluated (see

above Non-Armoring Alternative Projects and Minimal Armoring Permutation sections), and it must identify the degree of erosion protection provided (in terms of the expected amount of time until blufftop structures, individually, would be expected to be in danger from erosion, and why, in each case).

4. **Plans.** There needs to be clearer project plans (see also the November 7, 2003 staff report and our DEIS/DEIR comments on this point). We need both full-sized plans and reduced (11"x17") plans with a graphic scale measured in feet and keyed to NGVD (for elevations) that identify and depict the following in site plan and cross-section:
 - (a) Existing Conditions. All existing development in the project area (including all structures, subsurface and surface, located seaward of the inland extent of the ECD right-of-way, and other structures located within 25 feet of the inland ECD right-of-way on the inland side); all existing geologic conditions including, at a minimum, location of the blufftop edge, location of the terrace deposit-bedrock interface, location of the bedrock-beach sand interface (including interface in a summer beach profile and in an extreme winter scour event), topography, and intertidal features for the area in which construction would take place; all areas occupied by rip-rap and rubble (with each type of material depicted separately); all property lines with indication of property owners for each property; and all areas encumbered by easements or other property restrictions (the text of all such recorded restrictions/easements must be provided).
 - (b) Proposed Project. All elements of the proposed seawall including, but not limited to, its inland-most top edge, its seaward-most toe, soil nail locations and their inland extent, areas in which it would be excavated into the Purisima Formation bedrock, all stairway and rail components, and all drainage and weep holes (see also Other Information section below). All ECD parkway improvements proposed must be shown. All construction access areas must be clearly identified, and any measures to be taken to delineate same described. All areas subject to State Lands Commission and/or Monterey Bay National Marine Sanctuary regulation should be outlined (see also Other Information section below). The Proposed Project must be identified clearly in relation to the existing conditions (see above).
 - (c) Alternative Projects. Plan sheets must be provided that detail the alternatives evaluated (see above Non-Armoring Alternative Projects section) in relation to the existing conditions (see above).
 - (d) Threat Evaluation. Plan sheets must be provided that detail the degree of threat over time in the existing ("no project") condition and for each of the alternatives evaluated (see above Non-Armoring Alternative Projects and Minimal Armoring Permutation section). Plan sheets should address the specific threat evaluation requirements detailed in the Threat Evaluation section above.
5. **Other Information.** There needs to be a clearer evaluation of the following (see also the November 7, 2003 staff report and our DEIS/DEIR comments on these points).
 - (a) Long-Term Surfing Impacts. There needs to be an analysis of the potential effect of the proposed project on the offshore surfing resource over time. Starting with a high resolution survey of offshore sea bottom bathymetry, the analysis should examine the

relation of nearshore bathymetry and changes in shoreline sand supply (attributable to the proposed project over time) to rises in sea-level, and how these in turn are expected to effect offshore surfing conditions during the life of the project.

In addition to the impact analysis, a long-term surf monitoring program needs to be developed. Such monitoring should specify methods for determining current (baseline) conditions, and for evaluating the seawall's influence on the quality of surfing waves by, among other ways, recording changes in the patterns of wave energy within the study area (including the location, duration, and shape of breaking waves during different swell conditions). Data collection, observation, measurement, and survey methods should address, at a minimum: general quality of surfing waves; wave characteristics (height, period and direction); wind conditions (speed and direction); water depth; sand deposition patterns; and shoreline configuration. The sampling methodology should be designed to provide an accurate dataset of surfing conditions (e.g., by monitoring conditions using a random sample, set days and times, by weather criteria, some combination of each, etc.), where, at a minimum, monitoring should occur at least weekly. The qualifications of acceptable surf monitors should be specified. The monitoring program must include development of an existing "baseline" condition for use in evaluating changes over time in relation to that baseline, where the baseline information is structured to relate to the monitoring methodology to be used. The monitoring needs to provide for a regular reporting mechanism (including reporting all observations, and providing photo and video documentation) that evaluates the monitoring data, identifies any adverse impact to the quality of surfing waves attributed directly or indirectly to the seawall, and provides recommendations for feasible responses to address identified impacts. If adverse impacts are identified, mitigation measures to be evaluated by the reports should include the use of sand replenishment, or artificial reefs, to restore high quality surfing conditions within the impacted areas, modifications to the seawall to negate and/or minimize the impact, and the establishment and/or enhancement of replacement surfing areas between the San Lorenzo River and the New Brighton State Beach. If adverse impacts are identified, then the monitoring should provide a mechanism for the matter to return to the Commission to determine a roughly proportional mitigation for the impact identified.

- (b) Sand Supply Impact and Mitigation. A clear evaluation needs to be provided using the Commission's sand supply impact methodology. Such evaluation should include a quantified estimate of the expected effect of the project on shoreline sand supply (for the first year and for every year that it remains in place at the site) due to, at a minimum, the following types of sand supply impacts: (1) area of footprint encroachment; (2) "passive erosion" from fixing the back beach on an eroding shoreline; and (3) retention of sand materials behind the seawall. For the quantified impact identified, cost estimates for delivering the identified amount of beach quality sand to the site (for the first year and every year that it remains in place) should be provided, including documentation supporting the cost estimates (e.g., bids from materials suppliers) and with adjustments for inflation over time. In the event an in lieu fee is used, mechanisms should be identified for collecting and disbursing in lieu fees over time. Such funds could be used for: (1) the costs associated with a Sand Supply Task Force (see below) (including reasonable costs necessary to support its creation, its ongoing evaluation activities

(including any meetings), and development of its final report); (2) implementation of recommended actions coming from the Task Force final report; or (3) only in the event that no implementation actions have been identified in the Task Force's final report, access and recreation enhancement projects in the Live Oak beach area.

The Corps should convene a Task Force consisting of representatives from responsible agencies (including, at a minimum, the Corps, Santa Cruz County, Coastal Commission, and Monterey Bay National Marine Sanctuary) and selected interest groups (including, at a minimum, the Surfrider Foundation, Surfers' Environmental Alliance, Oceans Conservancy, Save our Shores, and the Sierra Club) to evaluate the feasibility of implementing a regional sand supply program to promote beach and sand bar formation in the Live Oak beach area and Capitola (i.e., from the Santa Cruz Harbor to New Brighton State Beach). The Task Force may reference and build upon existing studies (including the Corps' 1992 and 1994 Santa Cruz Harbor area shoaling studies) and resources available from the Coastal Sediment Management Working Group (representing the Corp and the state Resources Agencies). The Task Force should, at a minimum, evaluate mechanisms (including structural, programmatic, and funding requirements) to increase the amount of sand in the shoreline sand supply system through sand import, and evaluate corrective measures to improve the transport of sand around the Santa Cruz Harbor jetties, including potential modifications to the jetties themselves. A timeline for submitting a final Task Force report (e.g., five years) with recommendations for implementation actions that would address sand supply to beaches in the Live Oak area, and potential mechanisms for initiating and approving such projects, should be provided.

- (c) Drainage. An evaluation needs to be provided describing the feasibility of locating drainage outlets in the proposed seawall, including weep holes, in unequal and random locations, and where they are least conspicuous in public views (e.g., at the intersection of the Purisima Formation with the terrace deposits). Potential methods of camouflaging drainage outlets and any necessary energy dissipation devices (e.g., with overhanging or otherwise protruding sculpted concrete so that drainage outlets are not visible from East Cliff Drive above and are not visible from the beach and/or from the ocean) should be evaluated and provided in narrative and plan form (site/cross section). Any issues regarding technical feasibility must be fully described, and all underlying assumptions and reasons for arriving at the conclusions presented provided.
- (d) Water Quality. An evaluation needs to be provided describing the feasibility of (and measures that could be taken for) consolidating all existing drainage outlets within the ECD project area into the fewest number feasible, and treating and filtering all drainage (to remove typical urban runoff pollutants)¹ prior to its discharge at the proposed

¹ Typical urban runoff pollutants describes constituents commonly present in runoff associated with precipitation and irrigation. Typical runoff pollutants include, but are not limited to: paints, varnishes, and solvents; hydrocarbons and metals; non-hazardous solid wastes and yard wastes; sediment from construction activities (including silts, clays, slurries, concrete rinsates, etc.); ongoing sedimentation due to changes in land cover/land use; nutrients, pesticides, herbicides, and fertilizers (e.g., from landscape maintenance); hazardous substances and wastes; sewage, fecal coliforms, animal wastes, and pathogens; dissolved and particulate metals; and other sediments and floatables.

seawall/bluff through the use of a water quality "treatment train"² where the quality of all water discharged is the same or better than that which would be achieved by using an engineered "finishing" system equivalent to a Stormwater Management Inc. *StormFilter* system that is designed to maximize the water quality of output discharge. Any treatment train evaluated should be sized for the volume of runoff produced from irrigation and from each and every storm and/or precipitation event up to and including the 85th percentile 24-hour runoff event for volume-based Best Management Practices (BMPs) and/or the 85th percentile, 1-hour runoff event (with an appropriate safety factor) for flow-based BMPs. All supporting technical information (e.g., brochures, technical specifications, flow calculations, etc.) and all underlying assumptions and reasons for arriving at the conclusions presented should be provided.

- (e) MBNMS coordination. Fill within the Monterey Bay National Marine Sanctuary (MBNMS) is prohibited, and MBNMS indicated to the Commission that their "strong preferences" were the no project alternative or further evaluation of soft alternatives to armoring (see above Non-Armoring Alternative Projects section). MBNMS indicated that the Corps had not yet initiated consultation with them on this project. Coordination and formal consultation with MBNMS should commence, including sharing the body of information to be developed per this document with them, and any MBNMS recommendations and/or response to the information and/or coordination/consultation should be provided.
- (f) State Lands Commission coordination. The proposed seawall project would require a lease and/or sale of State Lands in order for it to be constructed. Coordination and formal consultation with the State Lands Commission should commence, and any sale and/or lease information should be more fully developed (including expected costs associated with such a sale/lease). The results of such coordination/consultation, including sale/lease information or indication from State Lands that they do not consent to such a project on State Lands) should be provided.
- (g) Private Property Acquisition. All privately-owned parcels on which the proposed seawall would be located and/or that are located between the proposed seawall and the East Cliff Drive right-of-way (including APN 032-251-11) should be acquired by a public agency. Evidence of this acquisition and/or the steps to be taken to pursue it (including any response from private property owners) should be provided.
- (h) History of existing rubble, rip-rap, and crib-walls. Information regarding the installation and permit history of the existing project area rubble, rip-rap, and crib walls should be provided. Such information should, at a minimum, identify the date of initial installation, the configuration at that time, and all associated permits. Any subsequent changes to the initial configuration should be explained. Site plans and cross sections should be included that clearly depict initial footprints and profiles and/or changes to them as appropriate.

² Where a "treatment train" refers to a water quality management system that is applied throughout the drainage watershed and that includes different biological and engineered BMPs to actively filter and treat runoff at different points as it flows through the project area, and that includes overall active management in the project area to both maintain BMP elements of the "train" and to implement more global BMPs overall (e.g., vacuum sweeping).

For any armoring in the project vicinity found to lack coastal development permits, potential corrective measures to address the lack of such required permits should be evaluated.

- (i) Transition rip-rap. An analysis of measures that can be taken to avoid the use of rip-rap to the maximum degree feasible at the transition of the proposed seawall to the O'Neill property rip-rap should be prepared. At a minimum, such analysis should include evaluation of options to extend wing-walls onto the O'Neill property, and whether the O'Neill rip-rap could be removed should the wing-walls extend far enough downcoast. All underlying assumptions and reasons for arriving at the conclusions presented should be provided.
- (j) Cumulative Impacts. A clearer assessment of the impact of this project in relation to existing armoring in the Live Oak beach area should be provided. Such assessment should evaluate cumulative impacts (long and short term) to, at a minimum, surfing, beaches, and visual resources. Commensurate mitigation should be provided for any impacts identified.